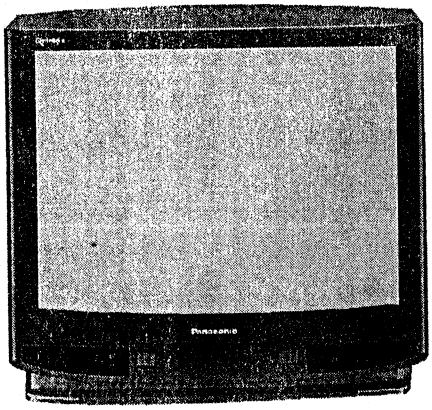
ORDER NO.SM–96018

Service Manual



SUPPLEMENT–1

Colour Television

TX–25MD2E

EURO 2 Chassis

NOTE:
THIS SUPPLEMENT SHOULD BE USED IN CONJUNCTION WITH THE TX–25MD1E SERVICE MANUAL

Specifications

Power Source :	220 – 240 V AC, 50Hz
Power Consumption :	92W
Aerial Impedance :	75Ω unbalanced, Coaxial Type
Receiving System :	PAL B/G,H PAL – 60 SECAM B/G
Receiving Channels :	VHF E2 – E12 VHF H1 – H2 (ITALY) VHF A – H (ITALY) VHF R1 – R2 VHF R3 – R5 VHF R6 – R12 UHF E21 – E69 CATV (S01 – S05) CATV S1 – S10 (M1 – M10) CATV S11 – S20 (U1 – U10) CATV S21 – S41 (HYPERBAND)
Intermediate Frequency :	
Video	38.9MHz
Sound	33.4MHz,33.16MHz 32.4MHz,33.05MHz
Colour	34.47MHz (PAL) 34.65MHz,34.5MHz (SECAM)

Video / AudioTerminals :

AUDIO MONITOR OUT	Audio (RCA x 2)	500 mV rms 1kΩ
AV1 IN	Video (21 pin)	1 Vp–p 75Ω
	Audio (21 pin)	500 mV rms 10kΩ
	RGB (21 pin)	
AV1 OUT	Video (21 pin)	1 Vp–p 75Ω
	Audio (21 pin)	500 mV rms 1kΩ
AV2 IN	Video (21 pin)	1 Vp–p 75Ω
	Audio (21 pin)	500 mV rms 10 kΩ
	S–Video IN (21 pin)	Y : 1 Vp–p 75Ω C : 0.3 Vp–p 75Ω
AV2 OUT	Video (21 pin)	1 Vp–p 75Ω
	Audio (21 pin)	500 mV rms 1kΩ
AV3 IN	S–Video IN (4–pin)	Y : 1 Vp–p 75Ω C : 0.3 Vp–p 75Ω
	Audio (RCA x 2)	500 mV rms 10kΩ
	Video (RCA x 1)	1 Vp–p 75Ω

High Voltage :	28kV ±1kV at zero beam current
Picture Tube :	A59ECF50X12
Visible screen size:	59 cm
Audio Output :	
Internal Speaker	2 x 15 W (Music Power) 8 Ω Impedance
Headphones	8 Ω Impedance
Accessories supplied :	Remote Control R6 (UM3) Battery
Dimensions :	Height : 531mm Width : 601mm Depth : 440mm
Net Weight	25kg

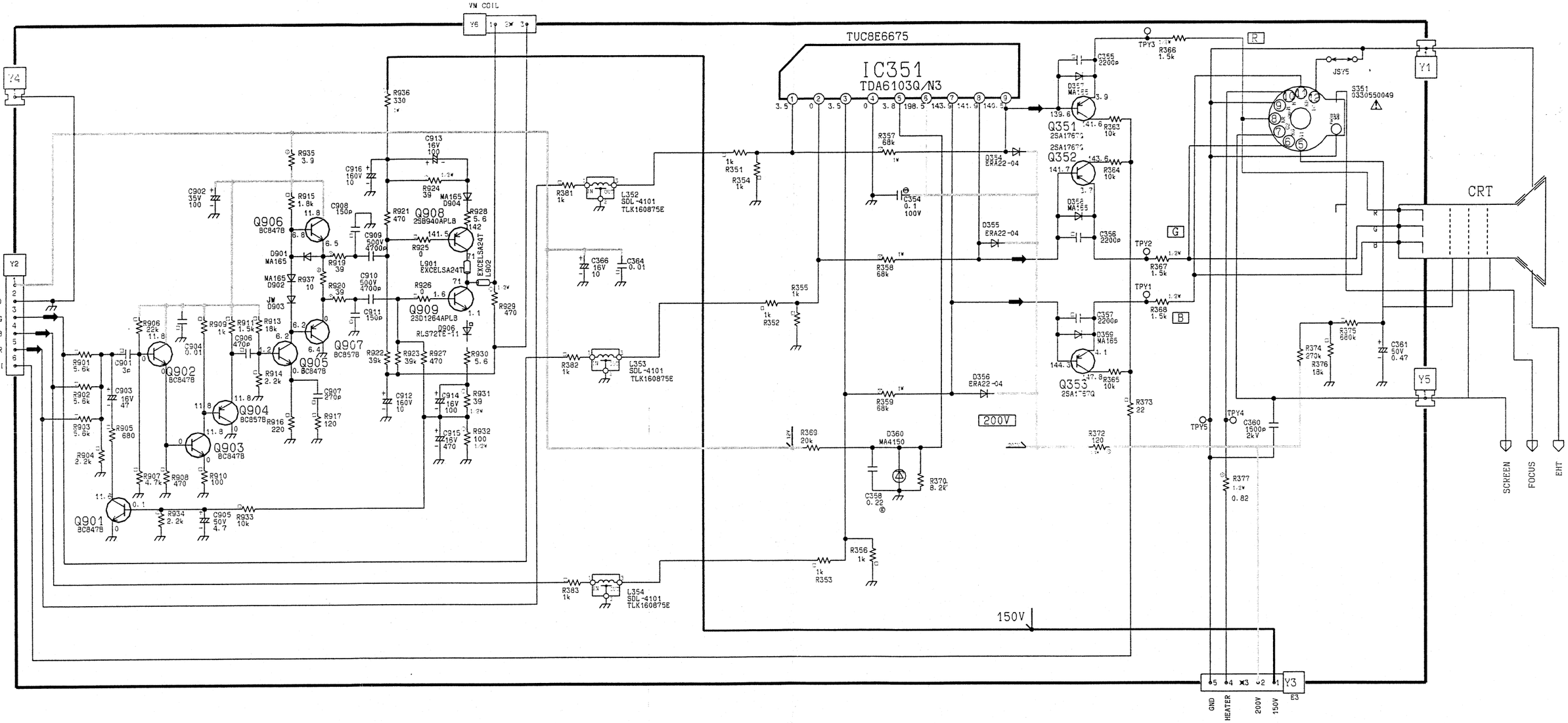
Specifications are subject to change without notice.
Weight and dimensions shown are approximate.

Panasonic

		TX – 25MD1E	TX – 25MD2E
DESCRIPTION		ORIGINAL	NEW
2) CABINET	⚠	TKY8E040	TKY8E040–4
3) CRT	⚠	A59ECF20X12	A59ECF50X12
4) CRT FIXING SCREW		THE492–4	THT8E001
5) Y PCB	⚠	TNP117070AA	TNP117070AC
6) B/COVER LABEL		TBM8E1478	TBM8E1564
9) E PCB	⚠	TNP197091AS	TNP197091BE
16) DEGAUSS COIL	⚠	TLK8E05115	TLK8E05120–1
INST BOOK GERMAN	⚠	TQB8E2025A	TQB8E2180A
INST BOOK DUTCH	⚠	TQB8E2025B	TQB8E2180B
INST BOOK FRENCH	⚠	TQB8E2025D	TQB8E2180D
INST BOOK SPANISH	⚠	TQB8E2025E	TQB8E2180E
INST BOOK SWEDISH	⚠	TQB8E2025F	TQB8E2180F
INST BOOK NORWEGIAN	⚠	TQB8E2025G	TQB8E2180G
INST BOOK FINNISH	⚠	TQB8E2025H	TQB8E2180H
INST BOOK PORTUGUESE	⚠	TQB8E2025J	TQB8E2180J
INST BOOK DANISH	⚠	TQB8E2025K	TQB8E2180K
CARTON		TPC8E4511	TPC8E4556

CR No	DESCRIPTION	ORIGINAL	NEW
C011	CAPACITOR	ECQB1H104KF3	NIL
C464	WIRE LINK	NIL	T3A205016
C606	CAPACITOR	NIL	ECUV1H040CCX
C607	CAPACITOR	NIL	ECUV1H040CCX
C625	CAPACITOR	ECEA1HNR22UB	ECEA1HNR33SB
C3026	CAPACITOR	ECEA1HMR47GB	ECEA1CM470B
C3027	CAPACITOR	ECEA1HMR47GB	ECEA1CM470B
D904	DIODE	T3A205016	MA165TA5VT
D906	DIODE	NIL	RLS72TE–11
D1210	DIODE	NIL	MA165TA5VT
IC601	VIDEO I.C.	VDP3108–25	VDP3108APPA1
IC1202	EPROM	27C010–08AME	27C025–MD2E
IC1203	EAROM	X24C16P–F1E	X24C0803D
IC2101	AUDIO I.C.	MSP3400–15	MSP3400CPPC6
JSE031	WIRE LINK	NIL	ERJ6GEY0R00V
JSE036	WIRE LINK	NIL	ERJ6GEY0R00V
JSE038	WIRE LINK	NIL	ERJ6GEY0R00V
JSY5	WIRE LINK	NIL	T3A206022

CR No	DESCRIPTION	ORIGINAL	NEW
J26	WIRE LINK	NIL	T3A205016
J188	WIRE LINK	T3A206022	NIL
J194	WIRE LINK	NIL	T3A206022
J197	WIRE LINK	NIL	T3A206022
L002	COIL	TLT047K991R	ELESN4R7KA
L801	COIL	298–19711	EXCELSA24T
Q908	TRANSISTOR	2SA1535ARLB	2SB940APLB
Q909	TRANSISTOR	2SC3944ARLB	2SD1264APLB
R302	RESISTOR	ERJ6GEYJ391V	ERJ6GEYJ471V
R306	RESISTOR	ERJ6GEYJ391V	ERJ6GEYJ471V
R310	RESISTOR	ERJ6GEYJ391V	ERJ6GEYJ471V
R813	RESISTOR	ERD50FJ334P	ERD50FJ274P
R815	RESISTOR	NIL	ERDS1TJ563T
R818	RESISTOR	ERD50FJ564P	ERD50FJ104P
R819	RESISTOR	ERD50FJ564P	ERD50FJ184P
R904	RESISTOR	ERJ6GEYJ102V	ERJ6GEYJ222V
R928	RESISTOR	ERDS2TJ2R7T	ERDS2TJ5R6T
R930	RESISTOR	ERDS2TJ2R7T	ERDS2TJ5R6T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Y2
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B
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CI
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Q902
BC847B
Q903
BC847B
Q904
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Q905
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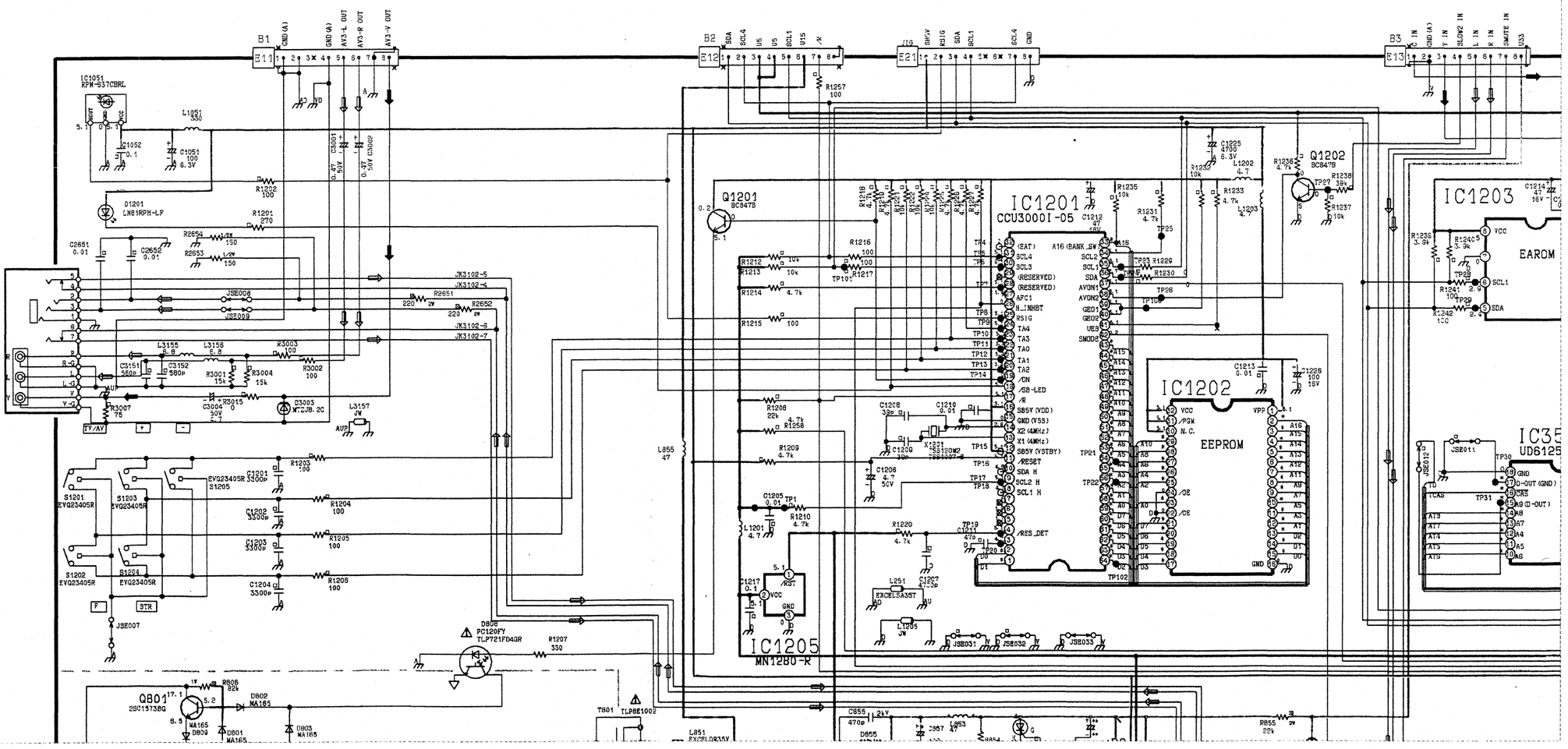
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JSE009
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JSE032
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2W
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R807
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R808
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2W
R2652
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2W
R3007
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R3015
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R3002
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R3003
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R1206
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C3152
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MA185
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GND (A)
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AV3-R OUT
AV3-V OUT
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SCL4
U5
U5
SCL1
U15
/R
SHSV
KSIG
SDA
SCL1
SCL4
GND
B3
C IN
GND (A)
Y IN
SLOW2 IN
L IN
R IN
SMUTE IN
U33
IC1201
(SAT)
SCL4
SCL3
(RESERVED)
(RESERVED)
AFC1
H_INHBT
KSIG
TA4
TA3
TA0
TA1
TA2
/ON
/SB-LED
/R
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GND (VSS)
X2 (4MHz)
X1 (4MHz)
SB5V (VSTBY)
/RESET
SDA H
SCL2 H
SCL1 H
/RES_DET
A16 (BANK_SW)
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SCL1
SDA
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AVGND2
GEO
GEO
UE5
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A12
A11
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A7
A6
A5
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JK3102-6
JK3102-7
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STR
TV/AV
AUP
AUP
AUP

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TPU3040-20

IC601

U5

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Q1207 BC847B

JK3101
TJS8E007

AV1
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VIDEO_1 IN
VIDEO OUT
GND (BLK)
GND (VIDEO)
RED IN
GND (DATA)
GND (RED)
N.C. (SDA)
GREEN IN
N.C. (SCL)
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L IN
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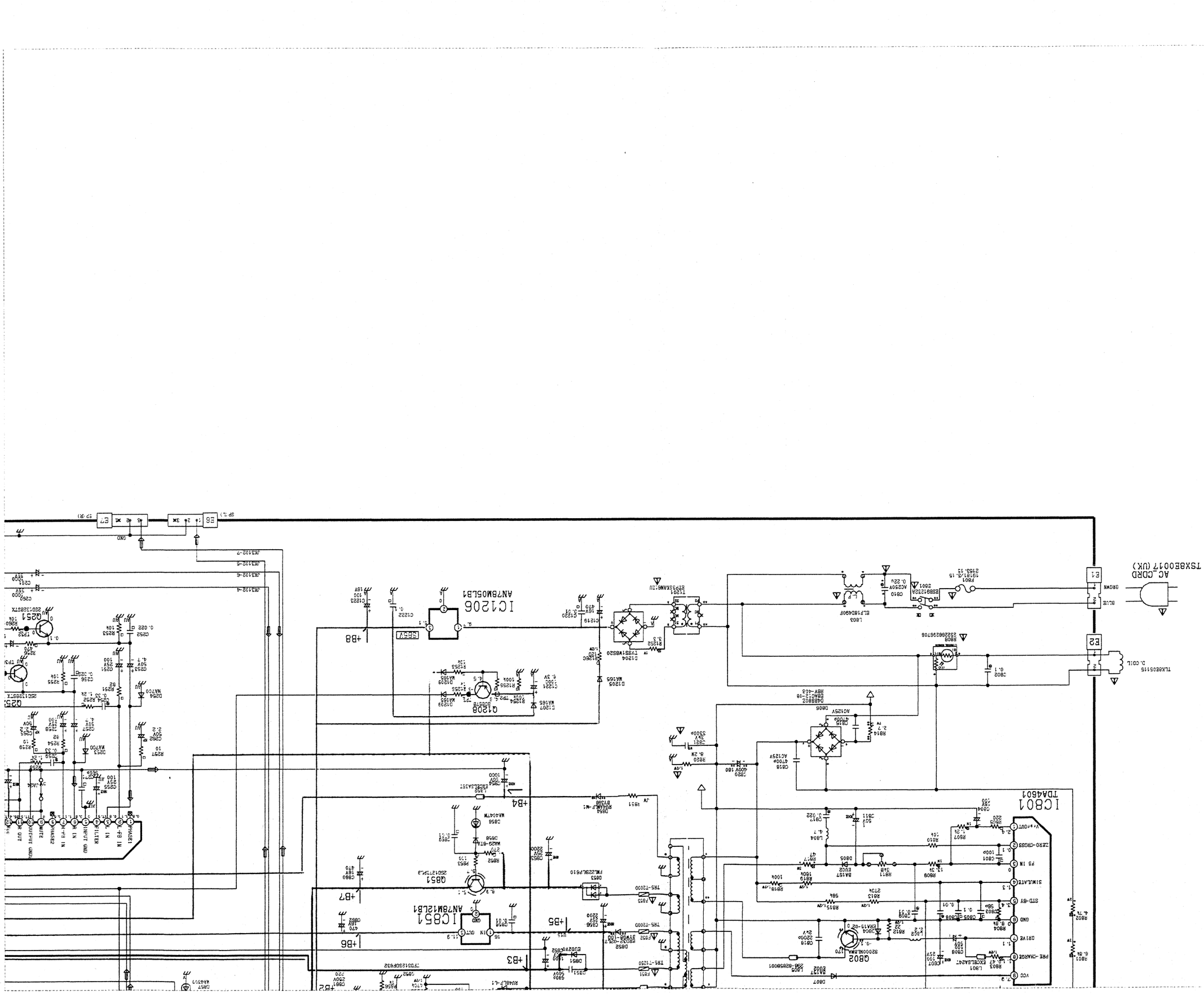
GND (AUDIO)
LOUT
R IN
ROUT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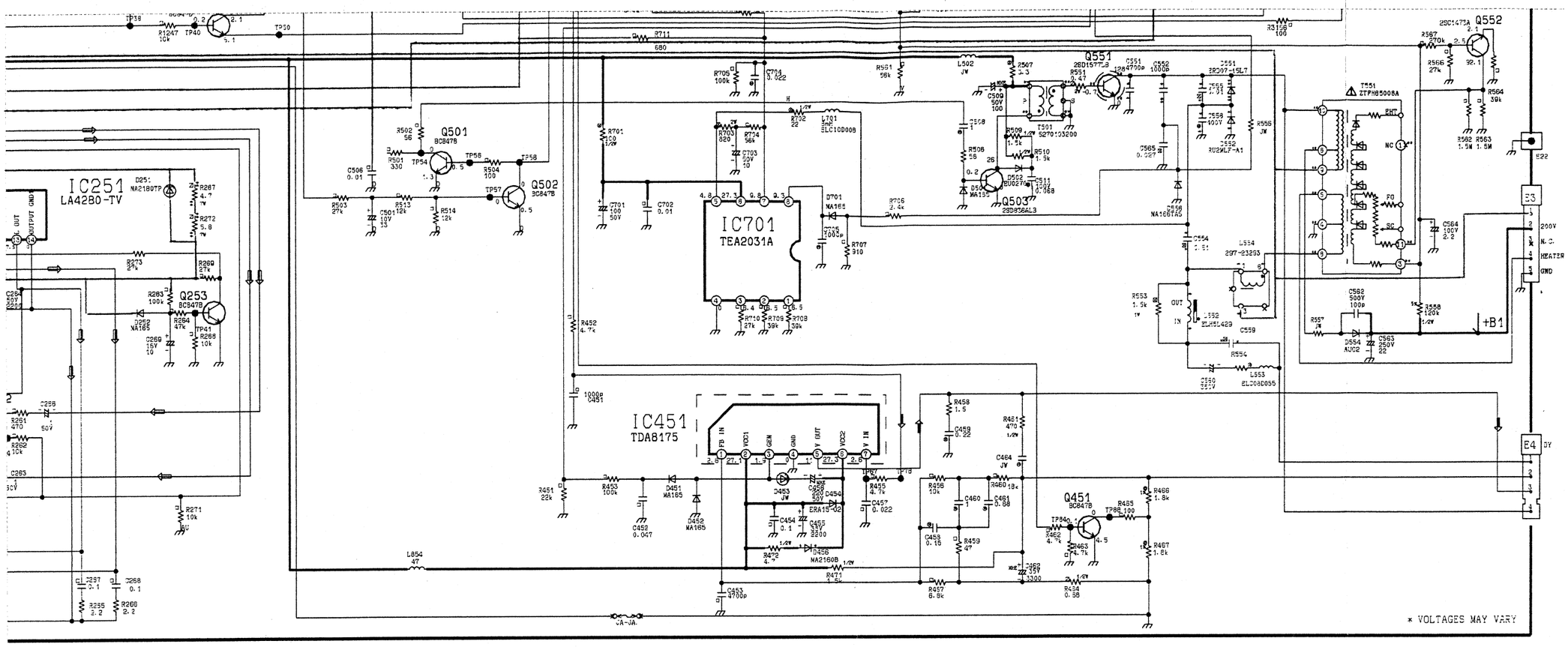
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D551
D552
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D701
D451
D452
D453
D454
D455
D456
D253
D251
IC701 PIN 1 2 3 4 5 6 7 8
IC701 VOLTAGE 4.8 27.3 4.8 3.3 0 5.4 5.5 5.5
IC451 PIN 1 2 3 4 5 6 7 8
IC451 VOLTAGE 2.6 27.1 1.7 0 1.1 27.3 5.6 2.6
Q501 VOLTAGE 0 0.5 1.3
Q502 VOLTAGE 0 0.5
Q503 VOLTAGE 0.2
Q551 VOLTAGE 0.7
Q552 VOLTAGE 2.1 2.5 92.1
Q253 VOLTAGE 2.1 5.1
Q451 VOLTAGE 4.5
FB IN
VCO1
GEN
GND
Y OUT
VCO2
Y IN
+B1
200V
N.C.
HEATER
GND
* VOLTAGES MAY VARY

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Safety Precautions

General Guide Lines

1. It is advisable to insert an isolation transformer in the AC supply before servicing a hot chassis.
2. When servicing, observe the original lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see that all the protective devices such as insulation barriers, insulation papers, shields and isolation R–C combinations are correctly installed.
4. When the receiver is not being used for a long period of time, unplug the power cord from the AC outlet.
5. Potentials as high as 29 kV are present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture to the chassis before handling the tube.
6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs of the plug.
2. Turn on the receiver's power switch.
3. Measure the resistance value with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screw heads, aerials , connectors, control shafts etc: When the exposed metallic part has a return path to the chassis the reading should be between 4M ohm and 20M ohm. When the exposed metal does not have a return path to the chassis the reading must be infinite.

Leakage Current Hot Check

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 2k ohm 10W resistor in series with an exposed metallic part on the receiver and an earth such as a water pipe.
3. Use an AC voltmeter with high impedance to measure the potential across the resistor.
4. Check each exposed Metallic part and check the voltage at each point.
5. Reverse the AC plug at the outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 1.4 Vrms. In case a measurement is outside the limits specified, there is a possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

HOT CHECK CIRCUIT

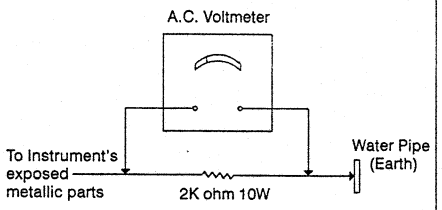


Fig.1

X–Radiation Warning

1. The potential sources of X–Radiation in TV sets are the high voltage section and the picture tube.
2. When using a picture tube test jig for service ensure that the jig is capable of handling 29kV without causing X–Radiation.

NOTE : It is important to use an accurate periodically calibrated high voltage meter

1. Set the brightness to minimum.
2. Measure the high voltage. The meter should indicate 26kV ±1kV {27kV ±1kV}at zero beam current if the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
3. To prevent an X–Radiation possibility, it is essential to use the specified tube.

Service Hints

How to remove the rear cover

1. Remove the 5 fixing screws (A) as shown in Fig.2

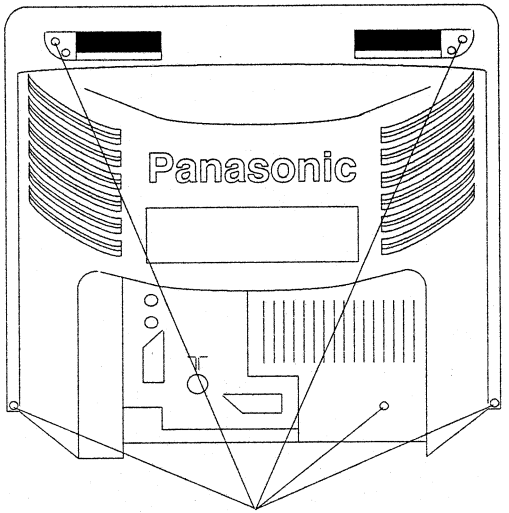


Fig.2.

Location Of Controls

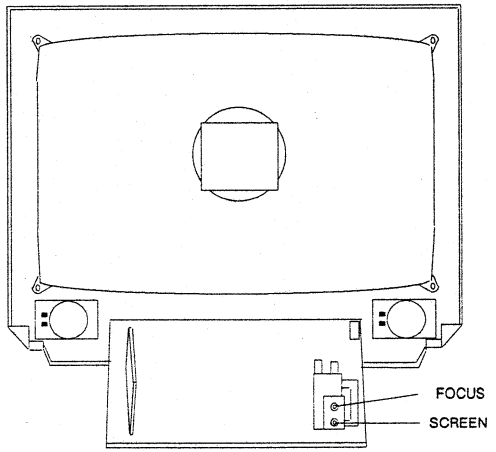


Fig.3.

How to move the chassis into the Service position

1. Insert 1 of the backcover screws into the rib on the left hand side of the cabinet as shown in Fig.4.
2. Hold and lift the rear of the E– PCB chassis and gently pull the chassis toward you as shown in fig.5.
3. Release the respective wiring clips and rotate the chassis horizontally through 90°, anti–clockwise, shown in Fig.6, then elevate the front of the chassis as shown in fig.8.
4. Clip the chassis frame onto the screw in the rib of the cabinet, shown in Fig.7/8.
5. Locate the base of the chassis frame into the recess marked A, shown in Fig.8.
6. After servicing remove the screw and ensure all wiring is returned to its original position before returning the receiver to the customer.

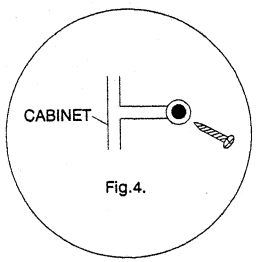


Fig.4.

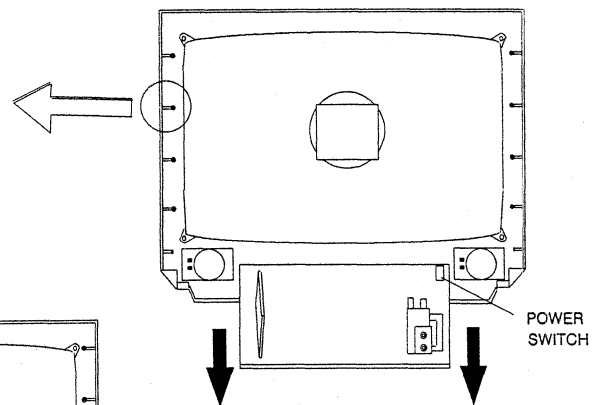


Fig.5.

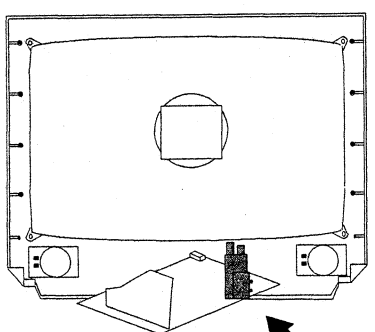


Fig.6.

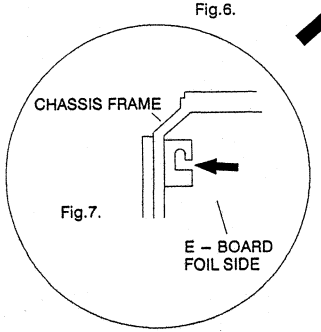


Fig.7.

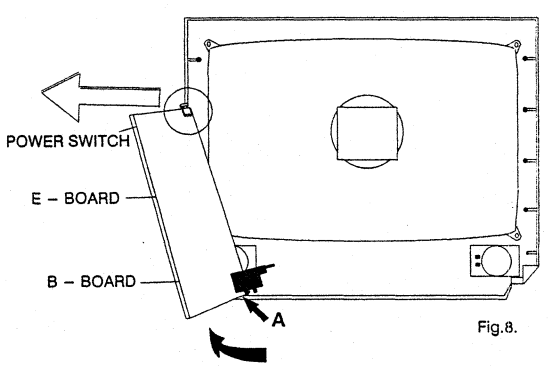


Fig.8.

Service Mode

The remote control is used for entering and storing adjustments, with the exception of cut–off adjustments which must always be done prior to service adjustment. Perform adjustments in accordance with screen display. The display on the screen also specifies the CCU variants as well as the approx. setting values. The adjustment sequence for the service mode is indicated below.

1. Set the Bass to maximum position, set the Treble to minimum position, press the F button followed by the Volume down on the customer controls at the front of the TV and at the same time press the Reveal button on the remote control, this will place the TV into the Service Mode.
2. Press the RED / GREEN buttons to step down / up through the functions.
3. Press the YELLOW / BLUE buttons to alter the function values.
4. Press the STORE button on the preset panel after each adjustment has been made to store the required values.
5. To exit the Service Mode press the Normalisation button.

NOTE: This TV also has the option of using a Memory Pack which enables you to copy the preset TV channels and analogue levels into the Memory Pack and then upload them onto another EURO–2 TV set.

Using the Memory Pack

TV to Memory Pack process

1. Plug the memory pack into the lower of the two 21 pin terminals at the back of the TV and switch the TV on. If the TV has only one 21 pin connector then this will be able to accept the memory pack.
2. Go into the Service Mode as explained above. The screen will show:–

   Program
   External>>TV
3. Press the blue button on the remote control. The screen will show:–

   Program
   TV>>External
4. Press the STORE button on the TV. The screen will show:–

   Storing
5. All the tuning information stored inside the TV will now be transferred to the Memory Pack. This process will take 2–3 minutes to complete and when finished the screen will show:–

   OK!

Memory Pack to TV Process

1. Plug the memory pack into the lower of the two 21 pin terminals at the back of the TV and switch the TV on. If the TV has only one 21 pin connector then this will be able to accept the memory pack.
2. Go into the Service Mode as explained above. The screen will show:–

   Program
   External>>TV
3. Press the STORE button on the TV. The screen will show:–

   Loading
4. All the tuning information stored inside the Memory Pack will now be transferred to the TV. This process will take 2–3 minutes to complete and when finished the screen will show:–

   OK!
5. The tuning information from the Memory Pack has now been copied into the TV
6. To exit from the Service Mode switch off the TV.
7. The process has now been completed and the Memory Pack can now be removed.

Errors

If an error occurs while using the Memory Pack the TV will detect this and the screen will show:–

Program
Error!

If this happens then switch off the TV and repeat the process that was being used. If the errors continue to occur then check the connectors between the TV and the memory pack and check the 9V battery inside the memory pack.

SELF CHECK

Self check is used to automatically check the Bus lines and Hexadecimal code of the TV set.
To enter the Self Check mode press Function down button, on the Preset Panel, at the same time pressing the Status button, on the Remote Control, and the screen will show:–

1	— ok	Tuner	11	— – –	Dolby IC for C/R	21	— ok P SBLED
2	— ok	VIF	12	— ok	P S MODE	22	— ok P OFF
3	— ok	EEPROM	13	— ok	P. TA0	23	— ok P DEFL
4	— – –	Sound AV switch1	14	— ok	P. TA1	24	— ok P RAM
5	— ok	Video AV switch1	15	— ok	P. TA2		
6	— ok	VDP	16	— ok	P. TA3	5A	
7	— ok	TPU	17	— ok	P SDA	22	
8	— ok	MSP	18	— ok	P SCL1	20	Hex codes
9	— – –	Dolby Sub	19	— ok	P SCL 3	94	
10	— – –	Dolby IC for L/R	20	— ok	P SCL4	85	

If the CCU ports have been checked and found to be incorrect then "– –" will appear in place of "OK".

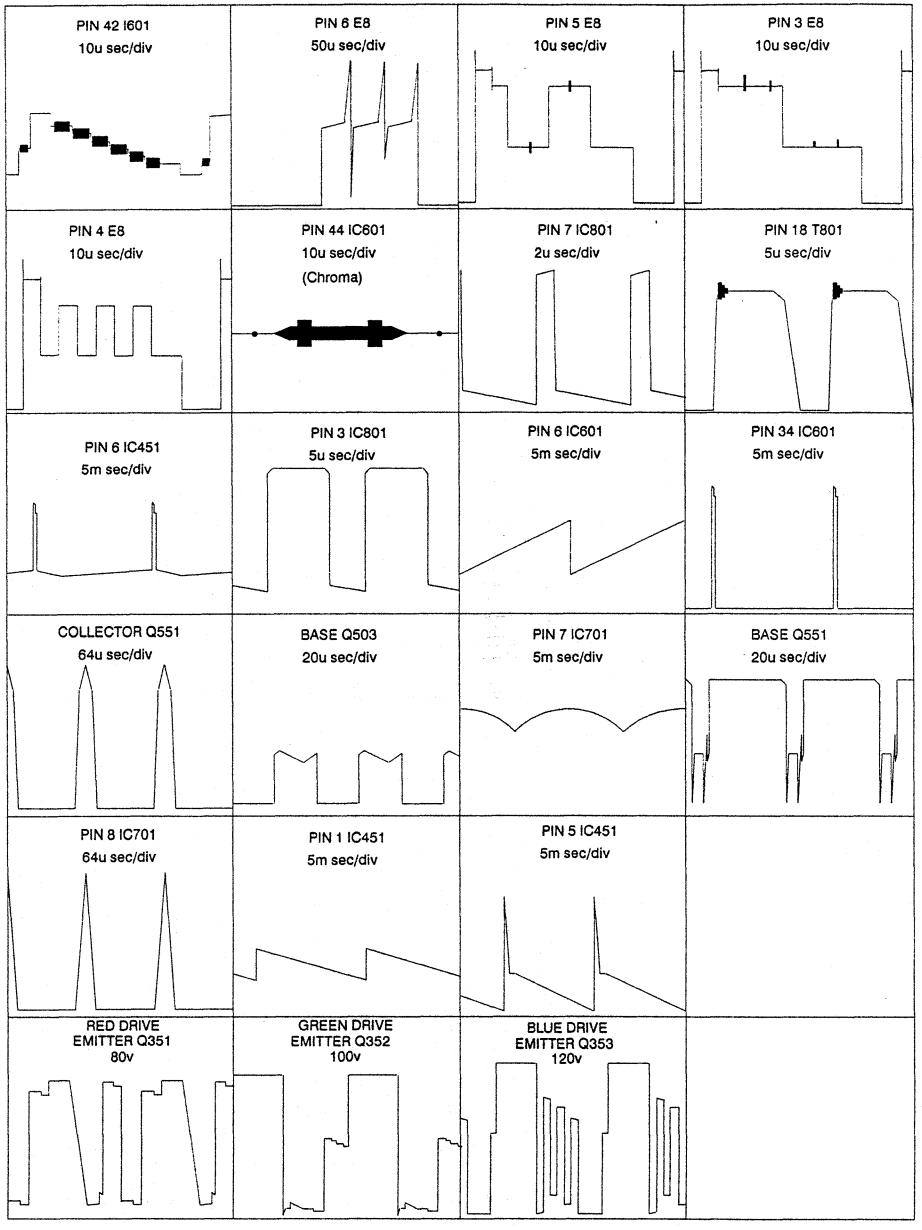
Adjustment Procedure

Item/Preparation	Adjustments
+B SET–UP 1. Recieve a window pattern 2. Set the controls: Brightness minimum Contrast minimum Volume minimum	1. Set the +B voltage up as follows: Adjust **R811** so that **B2** shows 130V +/– 1V 2. Confirm the following voltages. **B1** 200 +/– 10V **B6** 12 +/– 0.5V **B3** 27 +/– 1V **B7** 5 + 0.1/–0.25V **B4** 35.5 +/– 1V **B8** 5 +/– 0.25V **B5** 16.0 +/– 1V **U33** 31 +/– 1V
RF AGC 1. Receive a test pattern. 2. Connect an oscilloscope between the tuner RF AGC and ground. 3. Set the oscilloscope gain range to 1V/div.	1. Check that the noise becomes large when the RF AGC VR **R126** is turned counterclockwise. After the check turn it clockwise 2. Gradually turn the RF AGC VR anti–clockwise, and set the RF AGC VR to the point where the RF AGC voltage is just falling to a point where this voltage drops by 0.2V from the maximum value.
CUT OFF 1. Receive a widow pattern. 2. Degauss the tube externally. 3. Set the TV into Service Mode 1. 4. Select Cutoff DC mode.	1. Confirm then value is 128 and select Ug2 mode noting colour with largest value 2. Turn the screen VR until a colour reaches 20~ 30. 3. Connect an oscilloscope to the cathode with the biggest value colour. 4. Select Cutoff DC mode and adjust Cutoff pulse to 159V +/– 5V. 5. Disconnect the oscilloscope and adjust the screen to whichever colour reaches 50 +/– 10 first.

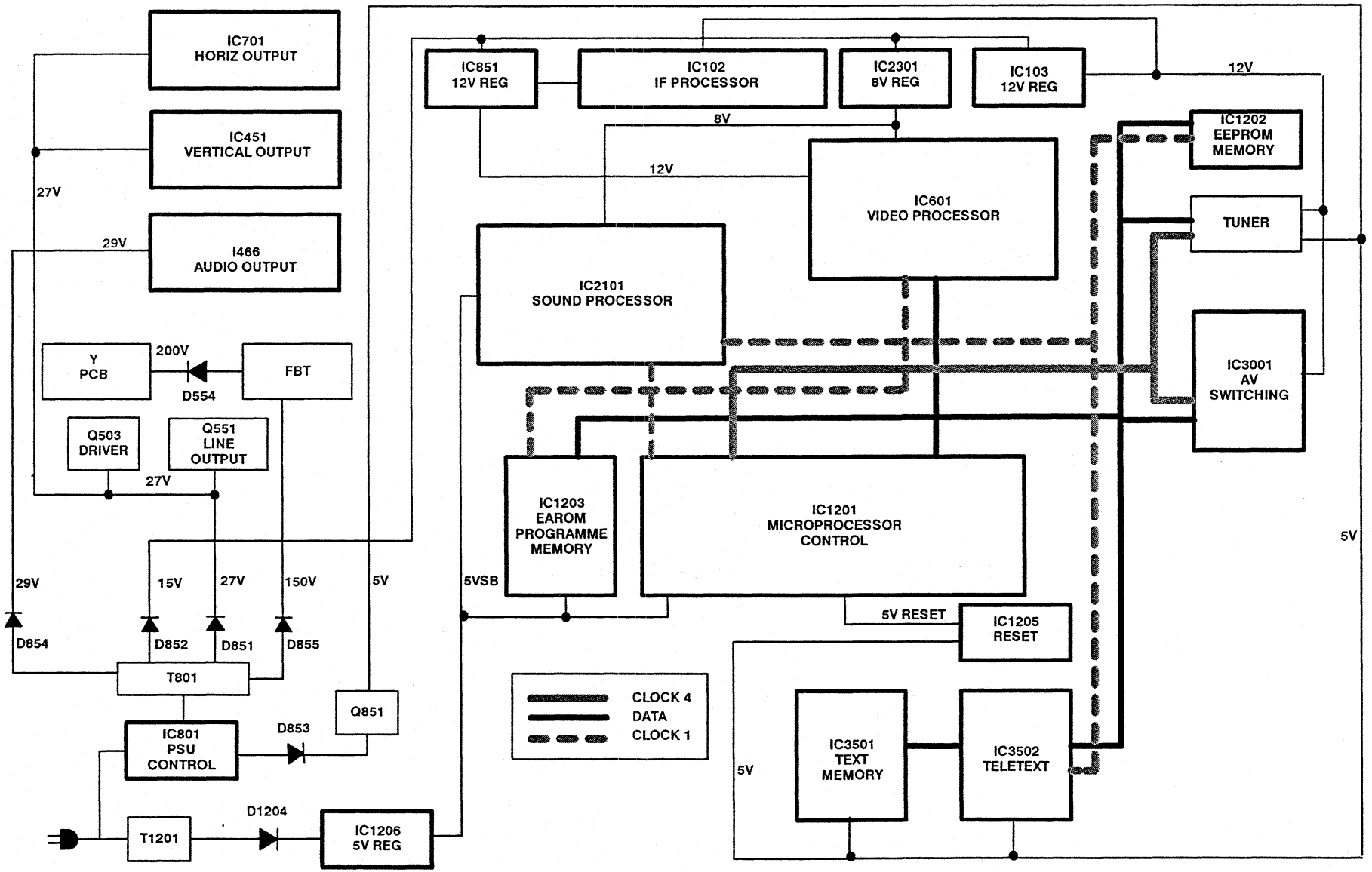
Alignment Settings

Alignment Function	TX–25MD1E	TX–21MD1E	Settings / Special features
1. Vertical amplitude	V–AM P051	V–AM P063	Optimum setting
2. Vertical symmetry	V–SYM 013	V–SYM 002	
3. Vertical linearity	V–LIN 012	V–LIN –020	
4. Vert. D.C.	Vert. D.C. 000	Vert.D.C. 000	No adjustment
5. V–Pos.	V. Pos. 003	V. Pos 005	Optimum setting
6. Horizontal amplitude	H–AM P –033	H–AM P –044	Optimum setting
7. Horizontal position	H–POS 049	H–POS 542	
8. Text Position	TEXT POSITION 045	TEXT POSITION 049	Optimum setting
9. EW–amplitude	E–W–AMP 1 –058	E–W–AMP 1 –059	Optimum setting
10. EW–amplitude	E–W–AMP 2 023	E–W–AMP 2 044	Optimum setting
11. Trapezium–comp	TRAPEZ–1 –014	TRAPEZ–1 000	Optimum setting
12. Trapezium– comp	TRAPEZ–2 012	TRAPEZ–2 –009	Optimum setting
13. Colour VCO	Colour VCO 015	Colour VCO 006	Press either Blue or Yellow buttons to effect automatic adjustment
14. Cut–off DC	Cut–off DC 050	Cut–off DC 050	No adjustment
15. Ug2 Test	Ug 2 Test: 107 021 023	Ug 2 Test: 094 044 020	Select Cutoff DC in Service Mode mode and confirm the value is 128. Select Ug 2 Test noting colour with largest value, adjust on FBT until a colour reaches 20 ~ 30. Connect an oscilloscope to the cathode of the biggest value colour, select Cutoff DC mode and adjust get Cutoff pulse voltage to 159±5V. Disconnect the oscilloscope and adjust the screen to whichever colour reaches 50±10 first.
16. Cutoff	Cutoff: 045 055 050	Cutoff: 057 064 056	Press the GREEN button to step through the settings. Adjust for optimum.
17. White	White: 224 255 237	White: 200 255 246	Press the GREEN button to step through the settings. Adjust for optimum.

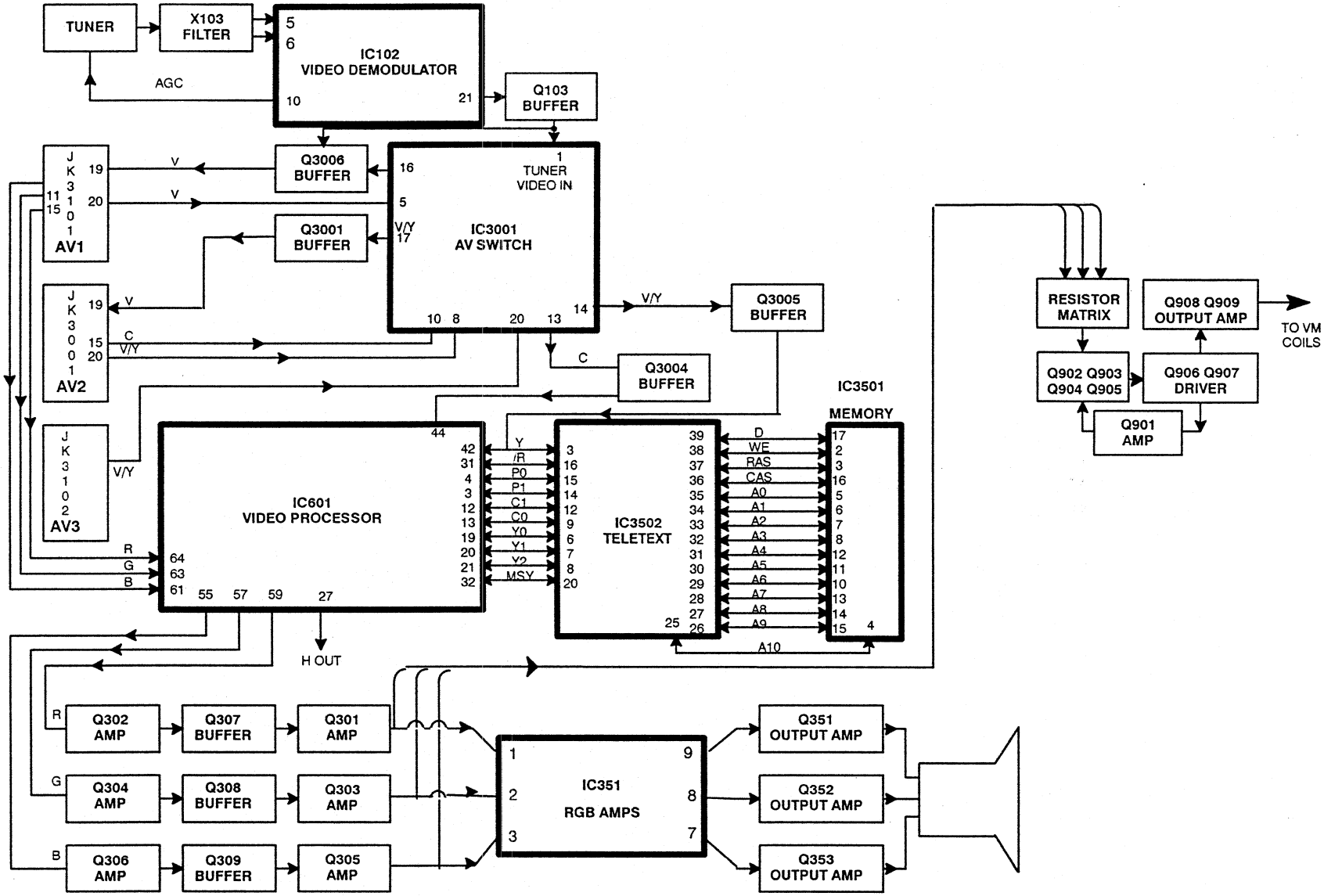
WAVEFORM PATTERN TABLE



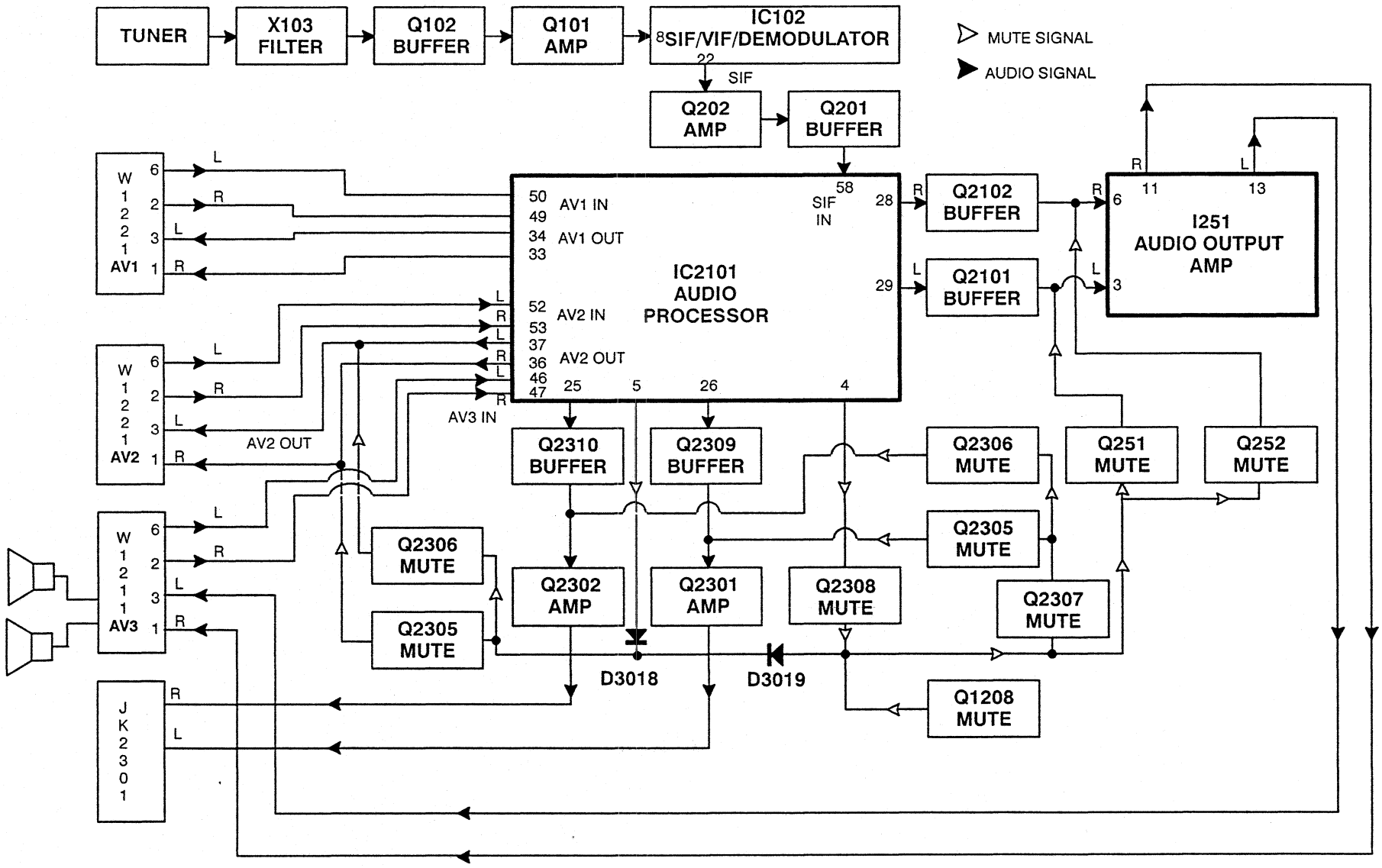
POWER SUPPLY AND CONTROL BLOCK DIAGRAM



VIDEO BLOCK DIAGRAM



AUDIO BLOCK DIAGRAM



SCHEMATIC DIAGRAM FOR MODELS TX–25/21MD1E (EURO–2L CHASSIS)

IMPORTANT SAFETY NOTICE

Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Notes

1. RESISTOR
   All resistors are carbon ¼W resistor, unless marked.
   Unit of resistance is OHM (Ω) (K=1,000, M=1,000,000).
2. CAPACITOR
   All capacitors are ceramic 50V capacitors, unless marked, the unit of capacitance is μF unless otherwise stated.
3. COIL
   Unit of inductance is μH, unless otherwise stated.
4. TEST POINT
   : Test Point position
5. EARTH SYMBOL
   : Chassis Earth (Cold)
   : Line Earth (Hot)
6. VOLTAGE MEASUREMENT
   Voltage is measured by a DC voltmeter.
   Measurement conditions are as follows:

Power source	AC 220–240V, 50Hz
Receiving Signal	Colour Bar signal (RF)
All customer controls	Maximum position

7. : Indicates the Video signal path
   : Indicates the Audio signal path
   : Indicates the Vertical/Horizontal signal path
8. This schematic diagram is the latest at the time of printing and is subject to change without notice.

Precautions

a. Do not touch the hot part, or the hot and cold parts at the same time, as you are liable to a shock hazard.

b. Do not short–circuit the hot and cold circuits as electrical components may be damaged.

c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously, as this may cause fuse failure. Connect the earth of the instruments to the earth connection of the circuit being measured.

d. Make sure to disconnect the power plug before removing the chassis.

Remarks

1. The Power Circuit contains a circuit area which uses a separate power supply to isolate the earth connection. The circuit is defined by HOT and COLD indications in the schematic diagram. All circuits, except the Power Circuit, are COLD.

IC3001
TEA6415C

IC2101
MSP3410-15

IC2301
AN78L08

IC103
AN78M12LB1

VIF
IC102
LA7577N

Q102 8F370
Q101 8F370
Q2101 BC860B
Q2102 BC860B
Q3001 2SC1318
Q3005 8C847B
Q3006 2SC1318
Q3004 8C847B
Q2307 BC860B
Q2308 BC857B
Q2309 BC860B
Q2310 BC860B
Q2301 BC857B
Q2302 BC857B
Q2305 2SD1328STX
Q2306 2SD1328STX
Q201 BC847B
Q202 BC847B
Q103 BC847B
Q3013 2SD1328STX
Q3012 2SD1328STX
Q3011 BC857B

D3004 MA4100
D3001 MTZJ12C
D3005 MTZJ12C
D3006 MTZJ12C
D3007 MTZJ12C
D3012 MTZJ12C
D3013 MTZJ12C
D3014 MTZJ12C
D3015 MTZJ12C
D3016 MTZJ12C
MA165 D3018
MA165 D3019

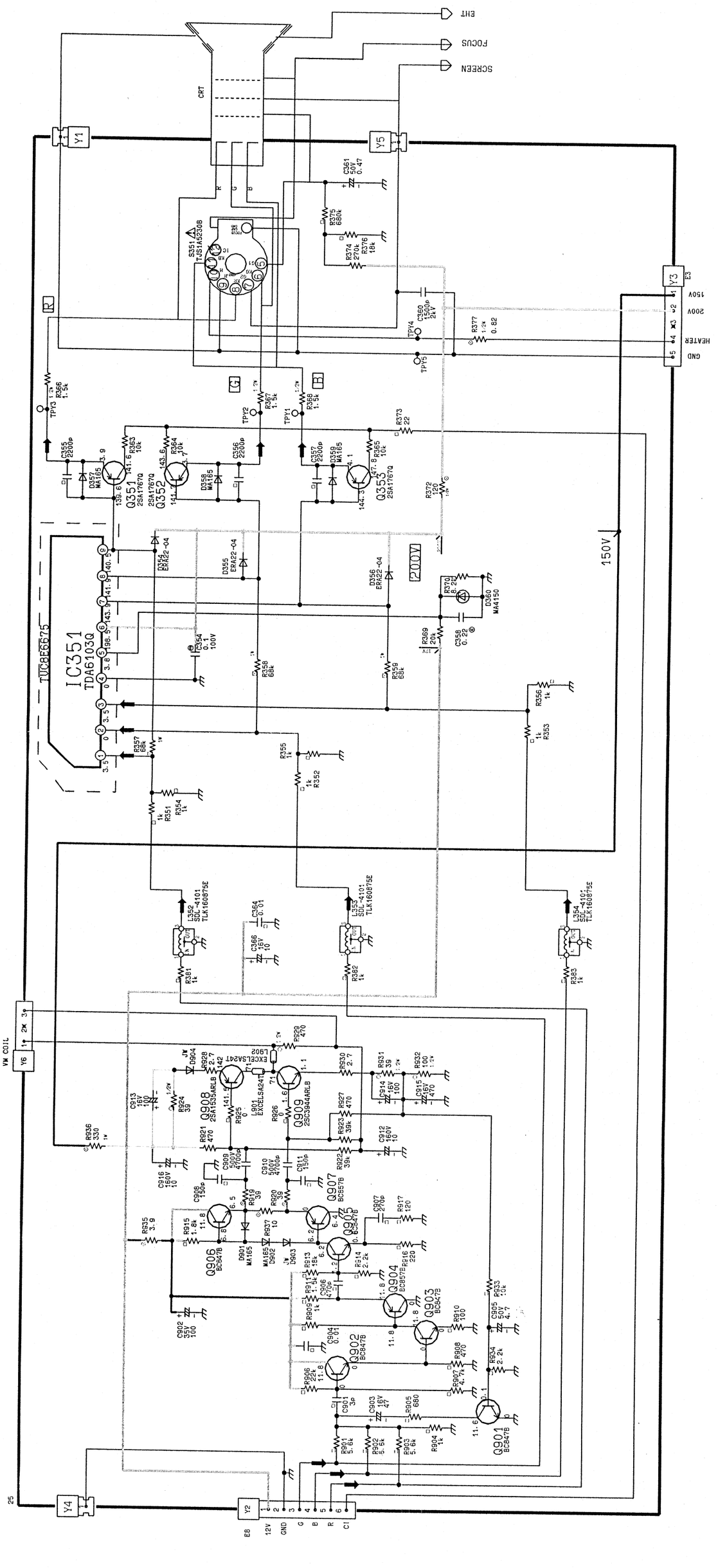
TNR001
X101
X103
X105 EFCV309SA6
L102 E1Y7EN200B
L104 E1YTEN201B

JK3001 TJSBE007
JK2301 TJB18644

AV2

FOR AV3
FOR AV1

F,F1 GND = IF BLOCK GROUND
V GND = AV TERMINAL GROUND
W GND = SOUND DECORDING BLOCK GROUND
C GND = AV SWITCHING BLOCK AND GENERAL GROUND
D GND = DIGITAL BLOCK GROUND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FOCUS
SCREEN
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Y5
Y3
E3
150V
200V
HEATER
GND
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TUC8E6675
Q351
Q352
Q353
Q901
Q902
Q903
Q904
Q905
Q906
Q907
Q908
Q909
S351
TJS1A5230B
L351
L352
L353
L354
TLK160875E
D354
D355
D356
D360
MA4150
D357
D358
D359
MA165
D901
D902
D903
MA165
L901
L902
EXCELSA24T
VM COIL
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Y4
Y2
E8
12V
GND
G
B
R
C1
25

JK3102
TJB16673

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27C010-150DC
EEPROM

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ST24C08CB1
EAROM

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UD61256DC-0

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MN1280-R

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Q801
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D3003
MTZJ8.2C
D802
MA165
T801
TLP88E1002

B1
B2
B3
E11
E12
E13
E21
J1G
J2G

SB5V
RSIG
/SB-LED
/R
H_INHBT
TA0
TA1
TA2
TA3
AV1
AV2
AV3
/RESET
/RES_DET
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SCL2 H
SCL1 H
SDA
SCL
SCL1
SCL4
SBGV
HSIG
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AV3-R OUT
AV3-V OUT
C IN
Y IN
SLOW2 IN
L IN
R IN
SMUTE IN
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U5
U15
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VD
F
STR
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JSE008
JSE009
JSE011
JSE031
JSE032
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TP23
TP24
TP25
TP26
TP27
TP28
TP29
TP30
TP31
TP101
TP102

IC3502
TPU3040-20

256Kx1Bit DRAM

IC601
VDP3108-25

X601
TSS2168-B

JK3101
TJS8E007

AV1

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Q303 BC857B
Q305 BC857B
Q307 BC847B
Q308 BC847B
Q309 BC847B
Q302 BC847B
Q304 BC847B
Q306 BC847B
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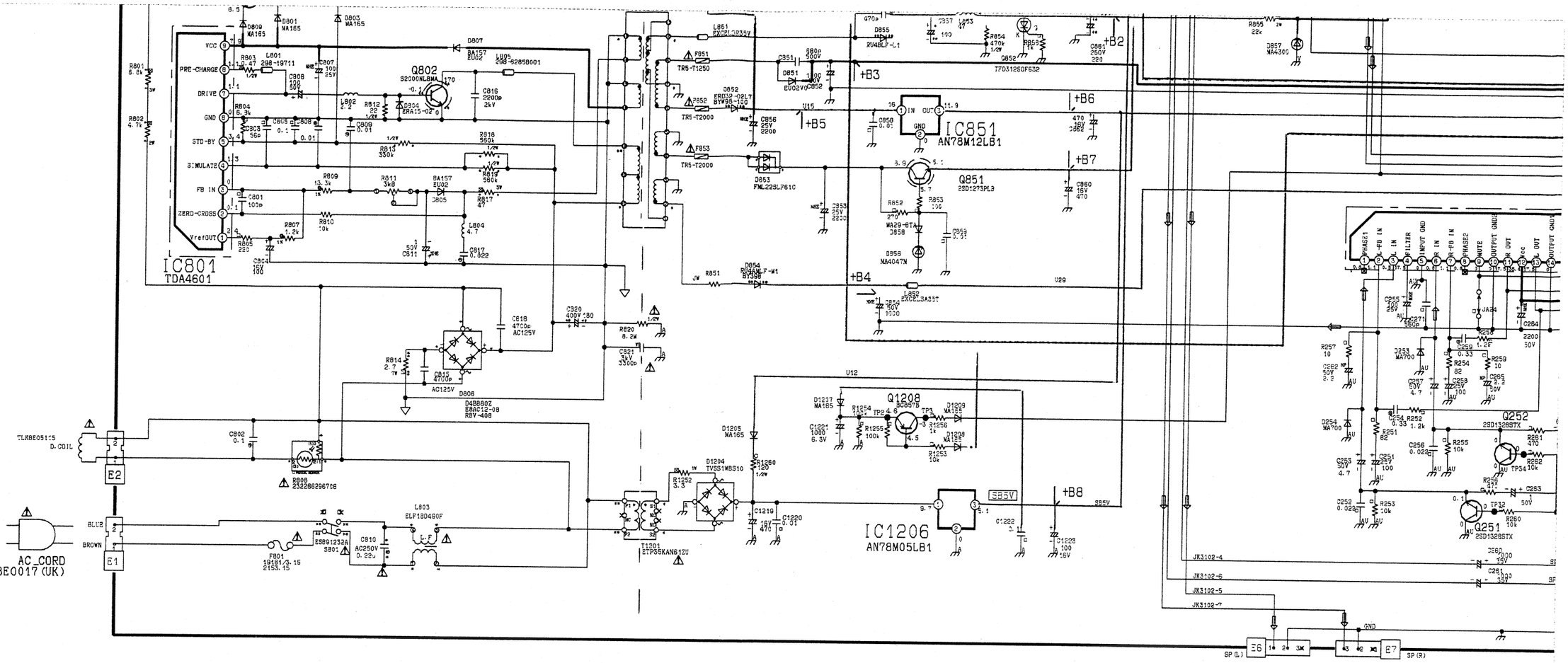
Q1207 BC847B

D311 MA29-BTA
D312 MA29-BTA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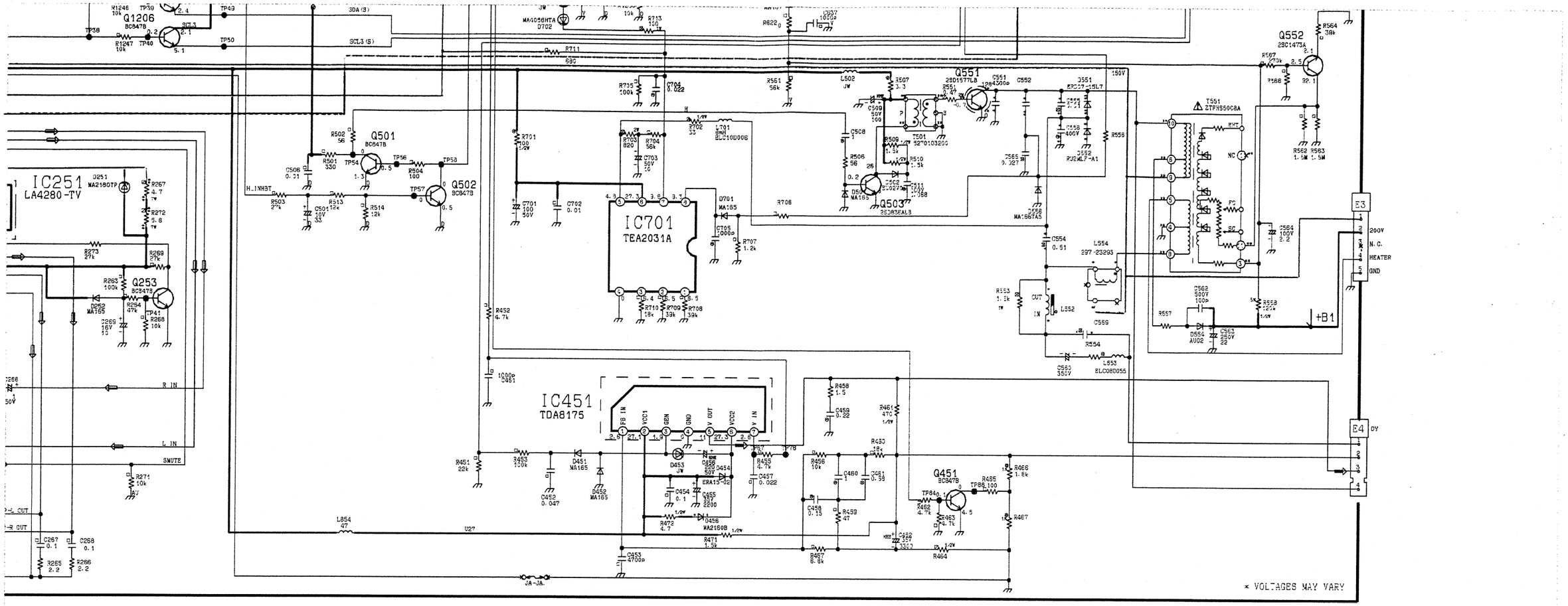
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T551
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E4
200V
N.C.
HEATER
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DY
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L IN
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30A (3)
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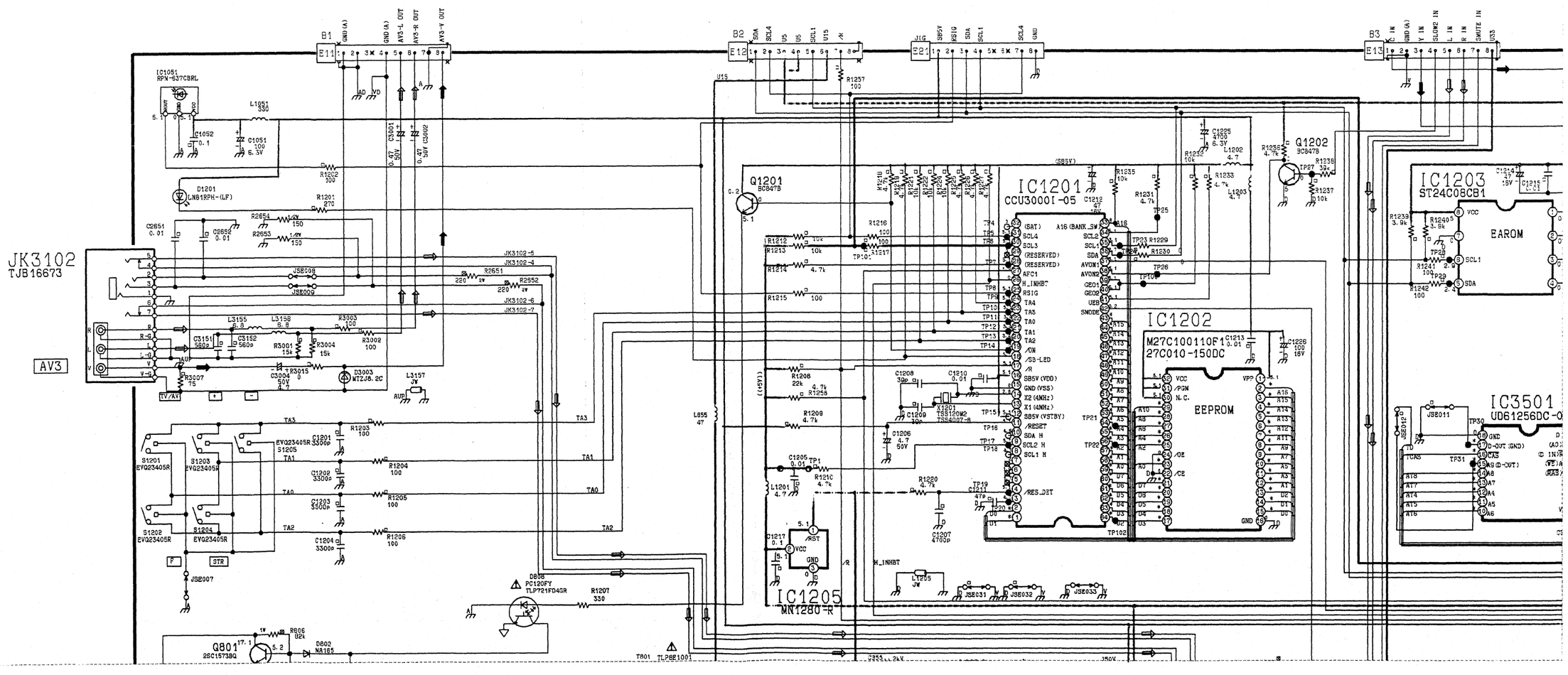
R OUT
L OUT
VOLTAGES MAY VARY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U5
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U15
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E21
SB5V
RSIG
SDA
SCL1
SCL4
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B3
E13
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R IN
SMUTE IN
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S1204
EVQ23405R
S1205
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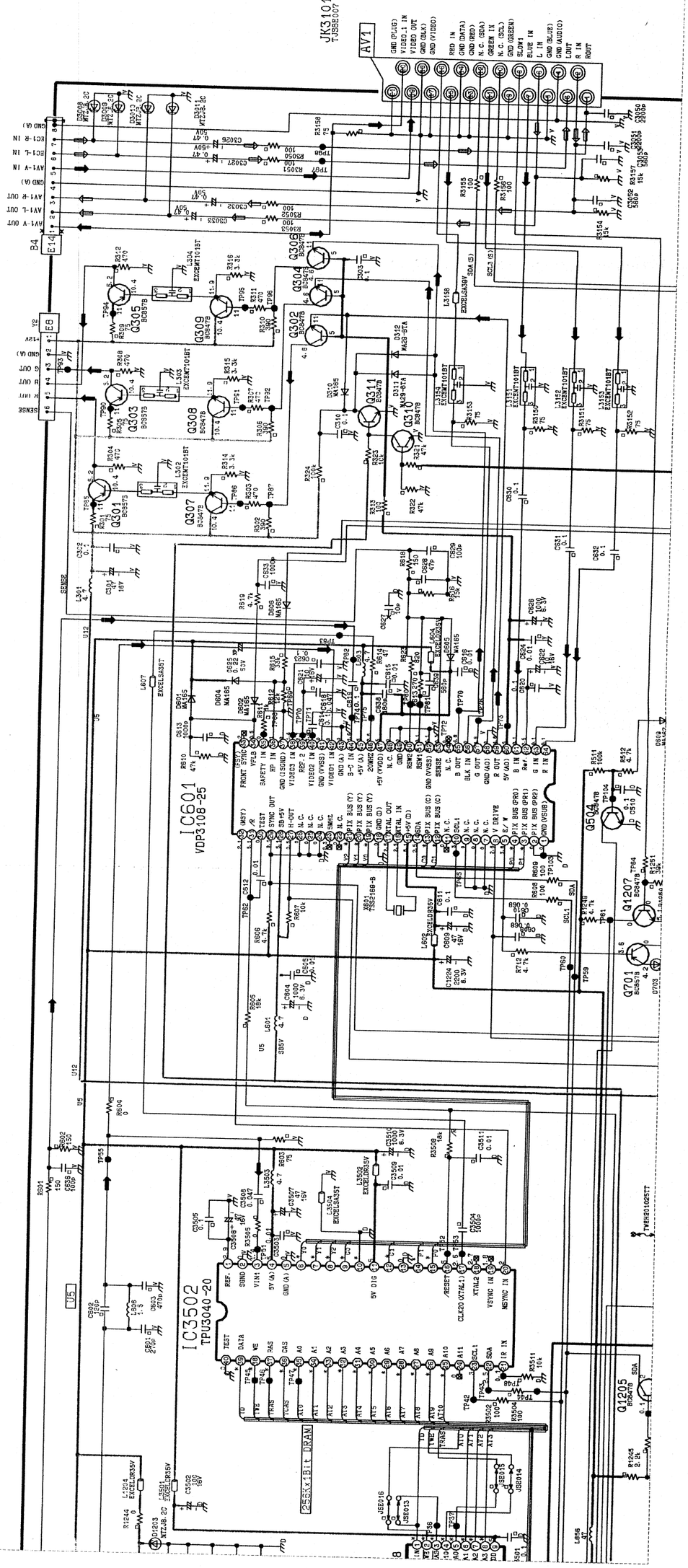
TLP721FD4GR
R1207
330
Q801
2SC1573BQ
R806
82k
D802
MA165
T801
TLP881001
/R
H_INHBT
/RES_DET
SCL4
SCL1
SDA
SB5V (VDD)
GND (VSS)
X2 (4MHz)
X1 (4MHz)
SB5V (VSTBY)
/RESET
SDA H
SCL2 H
SCL1 H
(SB5V)
(145V)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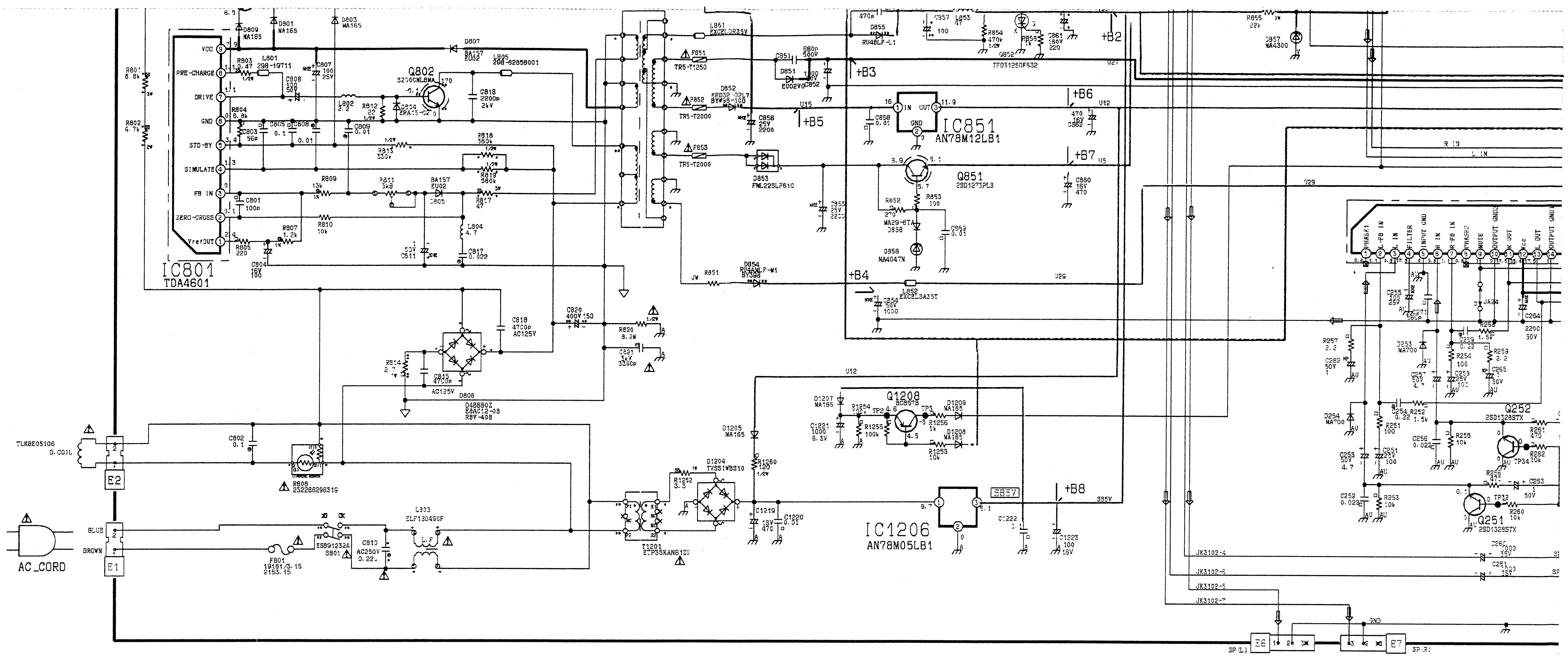
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D803 MA165
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R802 4.7k
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R811 3k8
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+B2
+B6
U12
C862 470 16V
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U5
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SB5V
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C1223 100 16V
R855 22k
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L IN
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L-FB IN
L IN
FILTER
INPUT GND
R IN
R-FB IN
PHASE2
MUTE
OUTPUT GND2
R OUT
Vcc
L OUT
OUTPUT GND1
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C271 560P
JA24
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C264 2200 50V
R257 2.2
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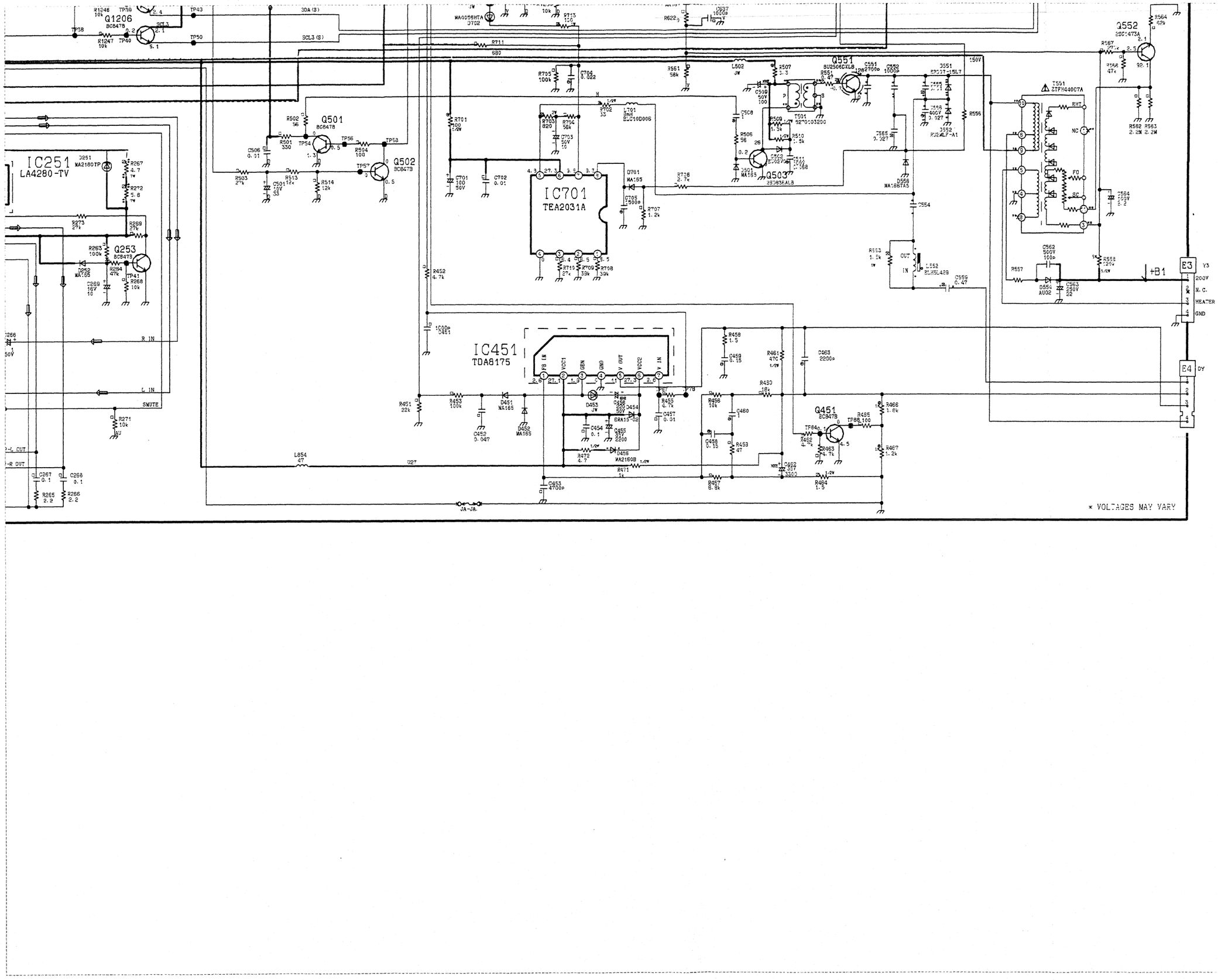
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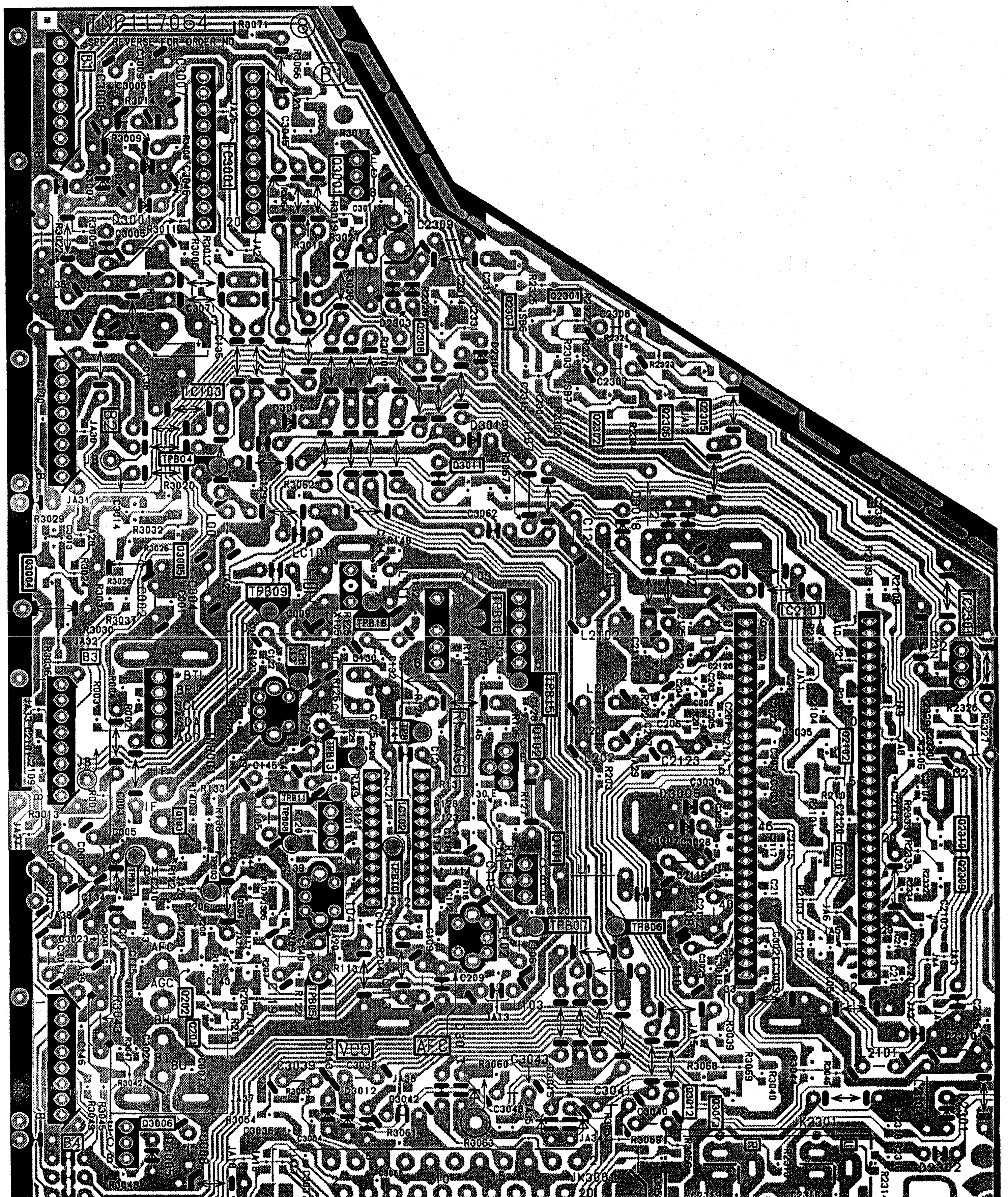
* VOLTAGES MAY VARY



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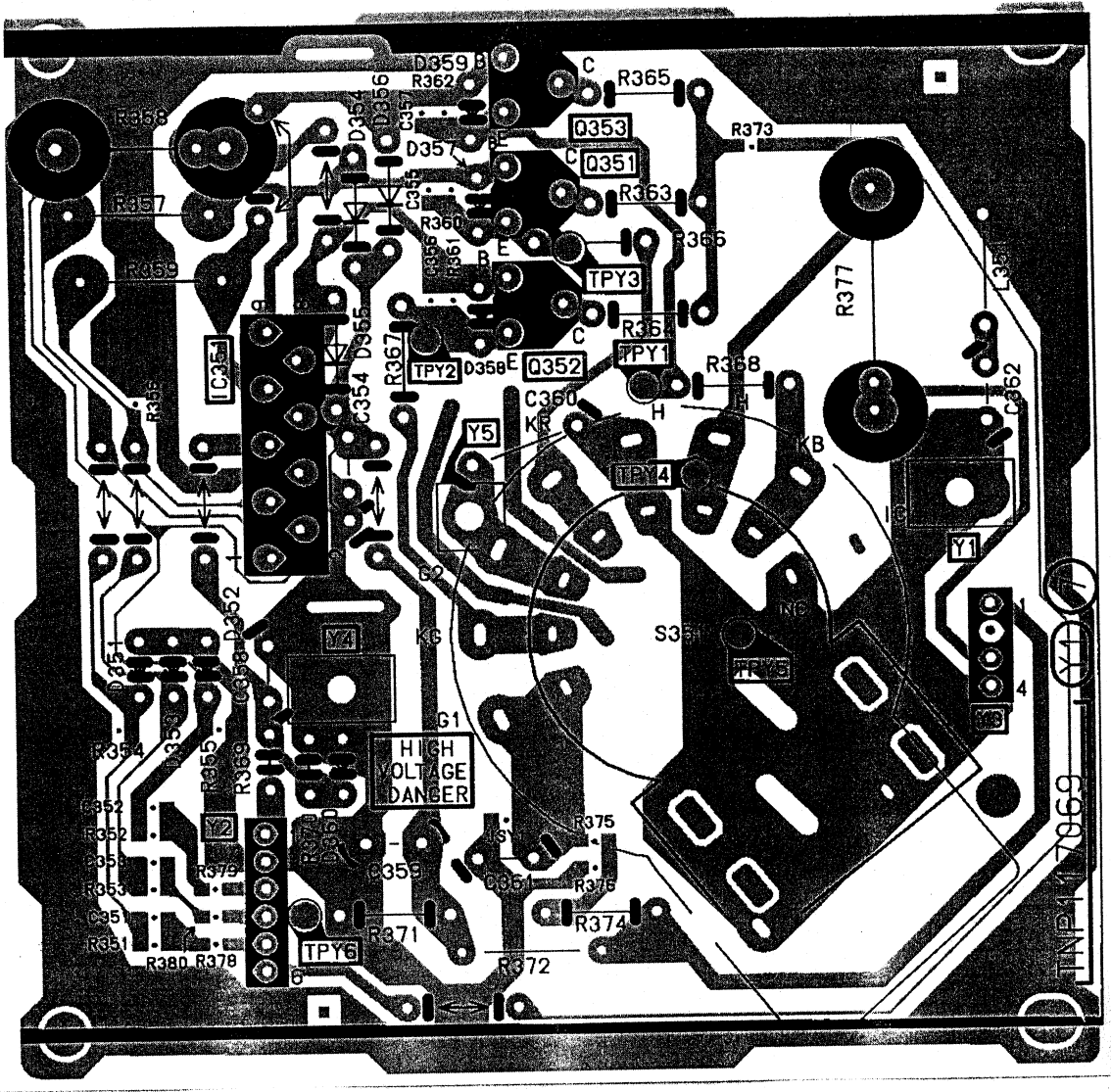
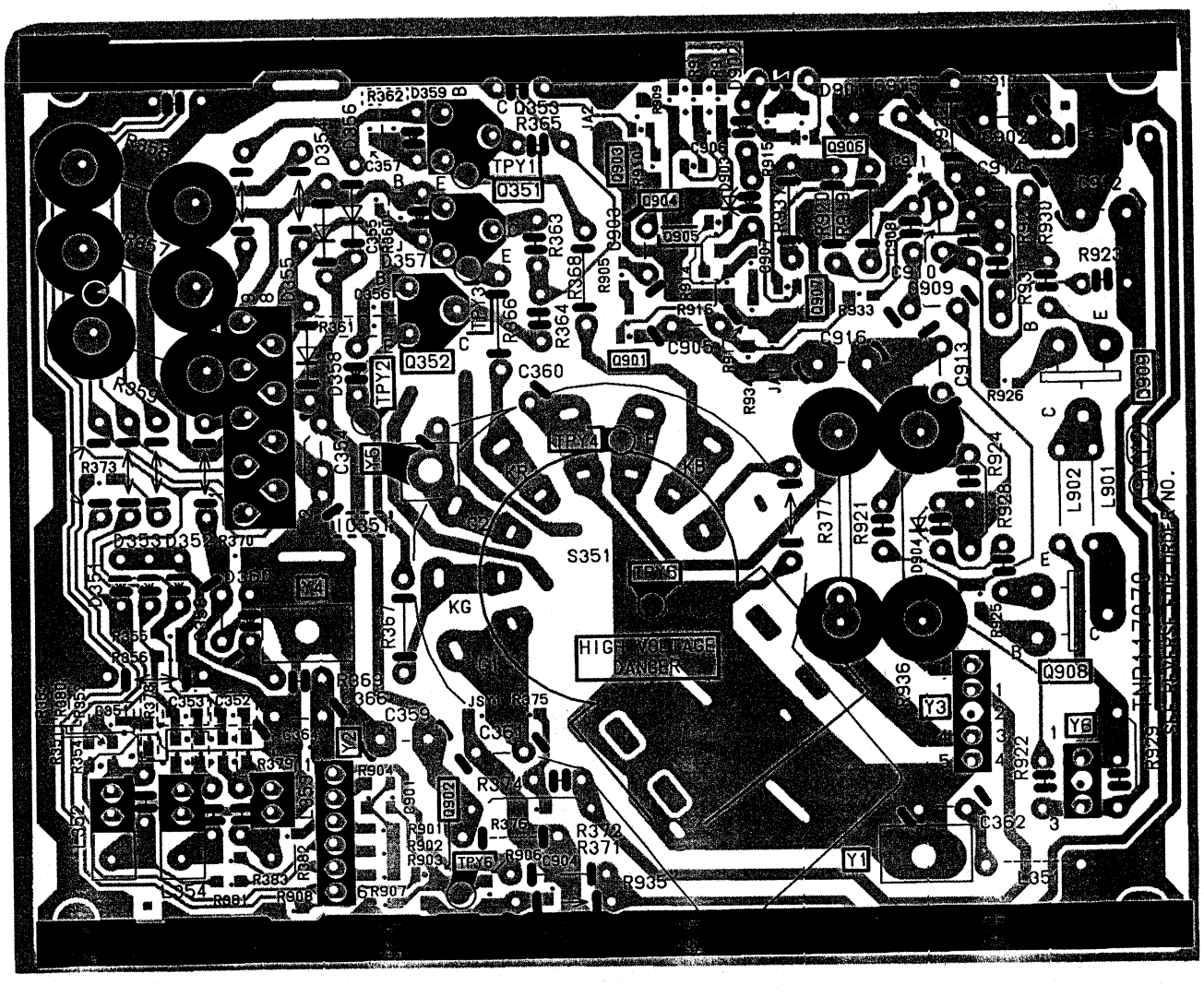
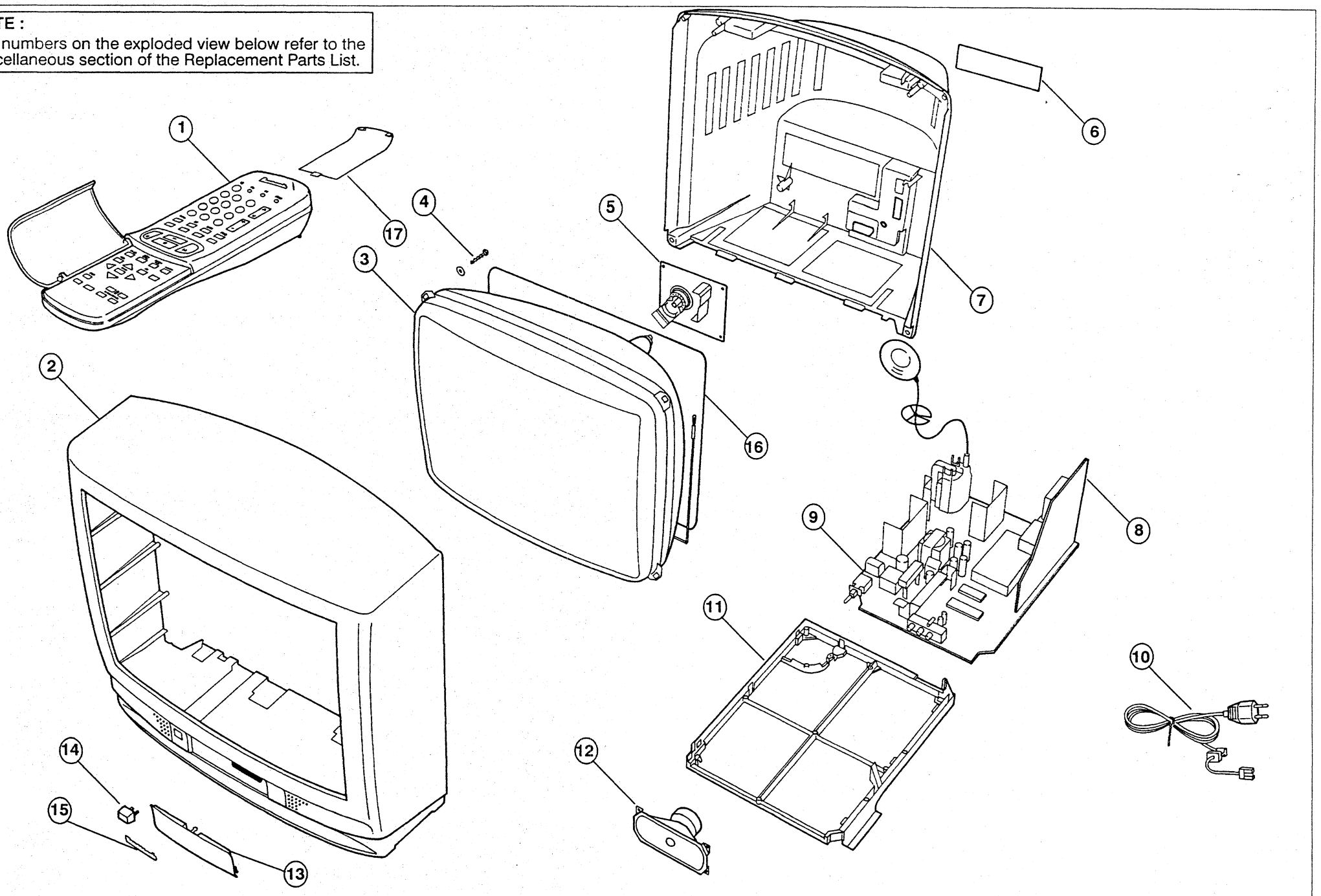

HIGH VOLTAGE DANGER
TNP4H170690


HIGH VOLTAGE DANGER

NOTE :
The numbers on the exploded view below refer to the miscellaneous section of the Replacement Parts List.



REPLACEMENT PARTS LIST

Important Safety Notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref No.	Part No.	Description	
MISCELLANEOUS COMPONENTS			
1)	EUR51920	REMOTE CONTROL	
2)	*********	SEE DIFFERENCE LIST	
3)	*********	SEE DIFFERENCE LIST	
4)	*********	SEE DIFFERENCE LIST	
5)	*********	SEE DIFFERENCE LIST	
6)	TBM8E1451-1	PRESET LABEL	
7)	*********	SEE DIFFERENCE LIST	
8)	TNP117064AG	B P.C.B.	⚠
9)	*********	SEE DIFFERENCE LIST	
10)	TSX8E0011	MAINS LEAD	⚠
11)	TMX8E010	CHASSIS FRAME	
12)	EASG12D531F2	SPEAKER	
13)	TKP8E1127	LID	
14)	TBX8E026	POWER BUTTON	
15)	TBM153022	PANASONIC BADGE	
16)	*********	SEE DIFFERENCE LIST	
17)	UR51EC780	BATTERY COVER (REMOTE)	
	TKP8E1128	LED PANEL	
	TMW8E020	LED HOLDER	
	TMX8E010	LED PANEL	
	TPD8E562	CUSHION	
	TQB8E2025A	GERMAN INSTRUCTION BOOK	⚠
	TQB8E2025B	DUTCH INSTRUCTION BOOK	⚠
	TQB8E2025D	FRENCH INSTRUCTION BOOK	⚠
	TQB8E2025E	SPANISH INSTRUCTION BOOK	⚠
	TQB8E2025F	SWEDISH INSTRUCTION BOOK	⚠
	TQB8E2025G	NORWEGIAN INSTRUCTION BOOK	⚠
	TQB8E2025H	SUOMI INSTRUCTION BOOK	⚠
	TQB8E2025J	PORTUGUESE INSTRUCTION BOOK	⚠
	TQB8E2025K	DANISH INSTRUCTION BOOK	⚠
	TEK6935	LID SWITCH	
	TES8E012	EARTH SPRING	
	F9-4-220	RELAY	
	UM-3DEP-2P	BATTERY	
MOE10	TES4537	SPRING	
MOE4	TES8E011	CHASSISSPRING	
MOE6	TES4537	SPRING	
TNR001	ENV578F5G3	TUNER	⚠
CAPACITORS			
C001	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C002	ECEA1HUR33	ELECT 50V 0.33μF	
C003	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C004	ECEA1CU221	ELECT 16V 220μF	
C006	ECEA1CU101	ELECT 16V 100μF	
C008	ECQB1H104J	FILM 50V 100nF	
C009	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C011	ECQB1H104J	FILM 50V 100nF	
C011	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C109	ECUV1H390JPX	S.M.CAP 50V 39pF	
C110	ECUV1H102KBX	S.M.CAP 50V 1nF	
C111	ECUV1H683ZFX	S.M.CAP 50V 68nF	
C112	ECUV1H150JCX	S.M.CAP 50V 15pF	
C113	ECEA1CU100	ELECT 16V 10μF	
C114	ECUV1H270JPX	S.M.CAP 50V 27pF	
C115	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C116	ECEA1CU100	ELECT 16V 10μF	

Ref No.	Part No.	Description	
C117	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C118	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C119	ECEA1HUR47	ELECT 50V 0.47μF	
C120	ECUV1H102KBX	S.M.CAP 50V 1nF	
C121	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C122	ECUV1H151JX	S.M.CAP 50V 150pF	
C123	ECUV1H102KBX	S.M.CAP 50V 1nF	
C124	ECEA1CU470	ELECT 16V 47μF	
C125	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C127	ECEA1CU470	ELECT 16V 47μF	
C128	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C130	ECEA1HUR47	ELECT 50V 0.47μF	
C131	ECEA1HU2R2	ELECT 50V 2.2μF	
C132	ECUV1H331KBX	S.M.CAP 50V 330pF	
C133	ECUV1H102KBX	S.M.CAP 50V 1nF	
C134	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C135	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C136	ECEA1CU100	ELECT 16V 10μF	
C137	ECEA1EU100	ELECT 25V 10μF	
C138	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C139	ECUV1H020CCX	S.M.CAP 50V 2pF	
C140	ECEA1HU010	ELECT 50V 1μF	
C141	ECUV1H102KBX	S.M.CAP 50V 1nF	
C142	ECUV1H102KBX	S.M.CAP 50V 1nF	
C143	ECUV1H102KBX	S.M.CAP 50V 1nF	
C145	ECEA1CU470	ELECT 16V 47μF	
C146	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C170	ECUV1H331KBX	S.M.CAP 50V 330pF	
C201	ECUV1H070DCX	S.M.CAP 50V 7pF	
C202	ECUV1H070DCX	S.M.CAP 50V 7pF	
C203	ECUV1H470JX	S.M.CAP 50V 47pF	
C204	ECUV1H560JCX	S.M.CAP 50V 56pF	
C205	ECUV1H100DCX	S.M.CAP 50V 10pF	
C207	ECUV1H220JCX	S.M.CAP 50V 22pF	
C209	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C210	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C211	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C251	ECEA1EU101	ELECT 25V 100μF	
C252	ECUV1H223KBX	S.M.CAP 50V 22nF	
C253	ECEA1HU4R7	ELECT 50V 4.7μF	
C255	ECEA1EGE101	ELECT 25V 100μF	
C256	ECUV1H223KBX	S.M.CAP 50V 22nF	
C257	ECEA1HU4R7	ELECT 50V 4.7μF	
C258	ECEA1EU101	ELECT 25V 100μF	
C260	ECEA1VU102	ELECT 35V 1000μF	
C261	ECEA1VU102	ELECT 35V 1000μF	
C263	ECEA1HU010	ELECT 50V 1μF	
C264	ECEA1HGE222	ELECT 50V 2200μF	
C266	ECEA1HU010	ELECT 50V 1μF	
C267	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C268	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C269	ECEA1CU100	ELECT 16V 10μF	
C271	ECUV1H561KBX	S.M.CAP 50V 560pF	
C301	ECEA1CU470	ELECT 16V 47μF	
C302	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C303	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C310	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C354	ECQM2104KZ	FILM 250V 100nF	
C355	ECUV1H222JCX	S.M.CAP 50V 2.2nF	
C356	ECUV1H222JCX	S.M.CAP 50V 2.2nF	
C357	ECUV1H222JCX	S.M.CAP 50V 2.2nF	
C360	ECKC3D152J	CERAMIC 2KV 1.5nF	⚠

Ref No.	Part No.	Description	
C361	ECA1HMR47GB	ELECT 50V R47μF	
C451	ECUV1H102JX	S.M.CAP 50V 1nF	
C452	ECUV1H473ZFX	S.M.CAP 50V 47nF	
C453	ECUV1H472KBX	S.M.CAP 50V 4.7nF	
C454	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C456	ECEA1HGE221	ELECT 50V 220μF	
C458	ECQM1H154J	FILM 50V 150nF	
C460	ECQV1H105JZ	FILM 50V 1μF	
C462	ECEA1VGE332	ELECT 35V 3300μF	
C501	ECEA1AU330	ELECT 10V 33μF	
C506	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C508	ECQV1H105JZ	FILM 50V 1μF	
C509	ECEA1HGE101	ELECT 50V 100μF	
C510	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C511	ECQM2683JZ	FILM 250V 68nF	
C555	ECWH12H103J	FILM 1250V 10nF	⚠
C562	ECKC2H101J	CERAMIC 500V 100pF	⚠
C563	ECEA2EU220	ELECT 250V 22μF	
C564	ECEA2AU2R2	ELECT 100V 2.2μF	
C565	ECQP1H273J	FILM 50V 27nF	
C601	ECUV1H271JCX	S.M.CAP 50V 270pF	
C602	ECUV1H121JCX	S.M.CAP 50V 120pF	
C603	ECUV1H471JCX	S.M.CAP 50V 470pF	
C604	ECEA0JU102	ELECT 6.3V 1000μF	
C605	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C608	ECUV1H683ZFX	S.M.CAP 50V 68nF	
C609	ECEA1CU470	ELECT 16V 47μF	
C610	ECUV1H683ZFX	S.M.CAP 50V 68nF	
C611	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C612	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C613	ECUV1H102JCX	S.M.CAP 50V 1nF	
C614	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C615	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C616	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C618	ECUV1H473ZFX	S.M.CAP 50V 47nF	
C619	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C620	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C621	ECEA1CU100	ELECT 16V 10μF	
C622	ECEA1CU100	ELECT 16V 10μF	
C623	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C624	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C625	ECEA1HNR22	ELECT 50V 0.22μF	
C626	ECEA0JU102	ELECT 6.3V 1000μF	
C627	ECUV1H100DCX	S.M.CAP 50V 10pF	
C628	ECUV1H470JCX	S.M.CAP 50V 47pF	
C629	ECUV1H101JCX	S.M.CAP 50V 100pF	
C630	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C631	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C632	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C633	ECUV1H102JCX	S.M.CAP 50V 1nF	
C636	ECUV1H101JCX	S.M.CAP 50V 100pF	
C637	ECUV1H102KBX	S.M.CAP 50V 1nF	
C638	ECUV1H181JCX	S.M.CAP 50V 180pF	
C639	ECUV1H561KBX	S.M.CAP 50V 560pF	
C702	ECUV1H103KBX	S.M.CAP 50V 10nF	
C704	ECQB1H223K	FILM 50V 22nF	
C801	ECUV1H101JCX	S.M.CAP 50V 100pF	
C802	ECQE6104K	FILM 600V 100nF	⚠
C803	ECUV1H560JX	S.M.CAP 50V 56pF	
C804	ECEA1CU101	ELECT 16V 100μF	
C805	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C806	ECEA1HU101	ELECT 50V 100μF	
C807	ECEA1EGE101	ELECT 25V 100μF	
C808	ECQB1H103J	FILM 50V 10nF	
C809	ECQB1H103J	FILM 50V 10nF	
C810	ECQU2A224MN	FILM 250V 220nF	
C811	ECEA1HN010	ELECT 50V 1μF	
C815	ECKC2H472J	CERAMIC 500V 4.7nF	⚠
C816	ECKC3D222JB	CERAMIC 2KV 2200pF	⚠
C817	ECQB1H223K	FILM 50V 22nF	

Ref No.	Part No.	Description	
C818	ECKC2H472J	CERAMIC 500V 4.7nF	⚠
C821	ECKCNS332J	CERAMIC 1.2KV 3.3nF	⚠
C851	ECKC2H681J	CERAMIC 500V 680pF	⚠
C852	ECEA1HU102	ELECT 50V 1000μF	
C853	ECEA1EGE222	ELECT 25V 2200μF	
C854	ECEA1HGE102	ELECT 50V 1000μF	
C855	ECKC3D471JB	CERAMIC 2KV 470pF	⚠
C856	ECEA1EGE222	ELECT 25V 2200μF	
C858	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C859	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C860	ECEA1CU471	ELECT 16V 470μF	
C862	ECEA1CU471	ELECT 16V 470μF	
C1051	ECEA0JU101	ELECT 6.3V 100μF	
C1052	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C1201	ECUV1H332KBX	S.M.CAP 50V 3.3nF	
C1202	ECUV1H332KBX	S.M.CAP 50V 3.3nF	
C1203	ECUV1H332KBX	S.M.CAP 50V 3.3nF	
C1204	ECUV1H332KBX	S.M.CAP 50V 3.3nF	
C1205	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C1206	ECEA1HU4R7	ELECT 50V 4.7μF	
C1207	ECUV1H472KBX	S.M.CAP 50V 4.7nF	
C1208	ECUV1H390JCX	S.M.CAP 50V 39pF	
C1209	ECUV1H390JCX	S.M.CAP 50V 39pF	
C1210	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C1211	ECUV1H470JCX	S.M.CAP 50V 47pF	
C1212	ECEA1CU470	ELECT 16V 47μF	
C1213	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C1214	ECEA1CU470	ELECT 16V 47μF	
C1215	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C1217	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C1219	ECEA1CU471	ELECT 16V 470μF	
C1220	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C1221	ECEA0JU102	ELECT 6.3V 1000μF	
C1222	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C1223	ECEA1CU101	ELECT 16V 100μF	
C1224	ECEA0JU222	ELECT 6.3V 2200μF	
C1225	ECEA0JM472GE	ELECT 6.3V 4.7nF	
C1226	ECEA1CU101	ELECT 16V 100μF	
C2101	ECUV1H223KBX	S.M.CAP 50V 22nF	
C2102	ECUV1H391KBX	S.M.CAP 50V 390pF	
C2103	ECUV1H102KBX	S.M.CAP 50V 1nF	
C2104	ECUV1H102KBX	S.M.CAP 50V 1nF	
C2107	ECUV1H391KBX	S.M.CAP 50V 390pF	
C2108	ECEA1CU101	ELECT 16V 100μF	
C2109	ECUV1H223KBX	S.M.CAP 50V 22nF	
C2110	ECEA1CU100	ELECT 16V 10μF	
C2111	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C2112	ECEA1CU100	ELECT 16V 10μF	
C2113	ECUV1H102KBX	S.M.CAP 50V 1nF	
C2114	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C2115	ECUV1H471KBX	S.M.CAP 50V 470pF	
C2116	ECEA1HU3R3	ELECT 50V 3.3μF	
C2117	ECUV1H471KBX	S.M.CAP 50V 470pF	
C2118	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C2119	ECEA1CU100	ELECT 16V 10μF	
C2120	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C2121	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C2122	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C2123	ECEA1CU100	ELECT 16V 10μF	
C2124	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C2125	ECUV1H030CCX	S.M.CAP 50V 30pF	
C2126	ECUV1H030CCX	S.M.CAP 50V 30pF	
C2127	ECEA1CU100	ELECT 16V 10μF	
C2307	ECEA1CU470	ELECT 16V 47μF	
C2308	ECEA1CU470	ELECT 16V 47μF	
C2309	ECEA1CU101	ELECT 16V 100μF	
C2310	ECEA1CU470	ELECT 16V 47μF	
C2312	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C2313	ECUV1H103KBX	S.M.CAP 50V 10nF	
C2314	ECUV1H104ZFX	S.M.CAP 50V 100nF	

Ref No.	Part No.	Description		
C2315	ECUV1H103KBX	S.M.CAP	50V	10nF
C2316	ECUV1H103ZFX	S.M.CAP	50V	10nF
C2317	ECEA1CU470	ELECT	16V	47μF
C2318	ECUV1H222KBX	S.M.CAP	50V	2.2nF
C2319	ECUV1H222KBX	S.M.CAP	50V	2.2nF
C2651	ECUV1H103KBX	S.M.CAP	50V	10nF
C2652	ECUV1H103KBX	S.M.CAP	50V	10nF
C3001	ECEA1HUR47	ELECT	50V	0.47μF
C3002	ECEA1HUR47	ELECT	50V	0.47μF
C3003	ECEA1EU4R7	ELECT	25V	4.7μF
C3004	ECEA1HU4R7	ELECT	50V	4.7μF
C3005	ECEA1HU4R7	ELECT	50V	4.7μF
C3006	ECUV1H473ZFX	S.M.CAP	50V	47nF
C3007	ECEA1HU470	ELECT	50V	47μF
C3011	ECUV1H473ZFX	S.M.CAP	50V	47nF
C3012	ECEA1CU470	ELECT	16V	47μF
C3013	ECUV1H104ZFX	S.M.CAP	50V	100nF
C3014	ECUV1H104ZFX	S.M.CAP	50V	100nF
C3017	ECEA1CN470	ELECT	16V	47μF
C3018	ECUV1H102KBX	S.M.CAP	50V	1nF
C3019	ECUV1H102KBX	S.M.CAP	50V	1nF
C3021	ECUV1H102KBX	S.M.CAP	50V	1nF
C3023	ECEA1CU470	ELECT	16V	47μF
C3024	ECUV1H473ZFX	S.M.CAP	50V	47nF
C3025	ECUV1H102KBX	S.M.CAP	50V	1nF
C3026	ECEA1HUR47	ELECT	50V	0.47μF
C3027	ECEA1HUR47	ELECT	50V	0.47μF
C3028	ECUV1H221JX	S.M.CAP	50V	220pF
C3029	ECUV1H221JX	S.M.CAP	50V	220pF
C3030	ECUV1H221JX	S.M.CAP	50V	220pF
C3031	ECUV1H221JX	S.M.CAP	50V	220pF
C3032	ECEA1HUR47	ELECT	50V	0.47μF
C3033	ECEA1HUR47	ELECT	50V	0.47μF
C3034	ECUV1H221JX	S.M.CAP	50V	220pF
C3035	ECUV1H221JX	S.M.CAP	50V	220pF
C3036	ECUV1H222KBX	S.M.CAP	50V	2.2nF
C3037	ECUV1H561JCX	S.M.CAP	50V	560pF
C3038	ECEA1CU470	ELECT	16V	47μF
C3039	ECEA1CU470	ELECT	16V	47μF
C3040	ECEA1HUR47	ELECT	50V	0.47μF
C3041	ECEA1HUR47	ELECT	50V	0.47μF
C3043	ECEA1HU4R7	ELECT	50V	4.7μF
C3045	ECUV1H104ZFX	S.M.CAP	50V	100nF
C3050	ECUV1H222KBX	S.M.CAP	50V	2.2nF
C3051	ECUV1H222KBX	S.M.CAP	50V	2.2nF
C3052	ECUV1H561JCX	S.M.CAP	50V	560pF
C3053	ECUV1H561JCX	S.M.CAP	50V	560pF
C3054	ECUV1H222KBX	S.M.CAP	50V	2.2nF
C3055	ECUV1H561JCX	S.M.CAP	50V	560pF
C3056	ECCR1H101J	CERAMIC	50V	100pF
C3062	ECUV1H104ZFX	S.M.CAP	50V	100nF
C3071	ECUV1H104ZFX	S.M.CAP	50V	100nF
C3151	ECUV1H561JCX	S.M.CAP	50V	560pF
C3152	ECUV1H561JCX	S.M.CAP	50V	560pF
C3501	ECUV1H104ZFX	S.M.CAP	50V	100nF
C3502	ECEA1CU101	ELECT	16V	100μF
C3503	ECUV1H103ZFX	S.M.CAP	50V	10nF
C3504	ECUV1H102JCX	S.M.CAP	50V	1nF
C3505	ECUV1H104ZFX	S.M.CAP	50V	100nF
C3506	ECEA1CU470	ELECT	16V	47μF
C3507	ECEA1CU470	ELECT	16V	47μF
C3508	ECUV1H473ZFX	S.M.CAP	50V	47nF
C3509	ECUV1H103ZFX	S.M.CAP	50V	10nF
C3510	ECEA0JU102	ELECT	6.3V	1000μF
C3511	ECUV1H103ZFX	S.M.CAP	50V	10nF

DIODES

D251	MA2180TP	DIODE
D252	MA165TA5	DIODE
D253	MA700TA5	DIODE

Ref No.	Part No.	Description
D254	MA700TA5	DIODE
D310	MA165TA5	DIODE
D311	MA29TA5	DIODE
D312	MA29TA5	DIODE
D354	ERA22-04V1	DIODE
D355	ERA22-04V1	DIODE
D356	ERA22-04V1	DIODE
D357	MA165TA5	DIODE
D358	MA165TA5	DIODE
D359	MA165TA5	DIODE
D360	MA4150	DIODE
D451	MA165TA5	DIODE
D452	MA165TA5	DIODE
D454	ERA15-02V3	DIODE
D456	MA2160BLFS	DIODE
D501	MA165TA5	DIODE
D502	EU02	DIODE
D551	ERD07-15L7	DIODE
D552	TVSRU2AM	DIODE
D554	AU02V0	DIODE
D556	MA166TA5	DIODE
D601	MA165TA5	DIODE
D602	MA165TA5	DIODE
D604	MA165TA5	DIODE
D605	MA165TA5	DIODE
D606	MA165TA5	DIODE
D609	MA167TA5	DIODE
D701	MA165TA5	DIODE
D702	MA4056	DIODE
D801	MA165TA5	DIODE
D802	MA165TA5	DIODE
D803	MA165TA5	DIODE
D804	ERA15-02V3	DIODE
D805	EU02	DIODE
D806	RBV4-08	DIODE
D807	EU02	DIODE
D808	PC120FY	DIODE
D809	MA165TA5	DIODE
D851	EU02	DIODE
D852	ERD32-02L7	DIODE
D853	FML22SLF610	DIODE
D854	RU4AMLF-M1	DIODE
D855	RU4BLF-L1	DIODE
D856	MA4047	DIODE
D857	MA4300	DIODE
D858	MA29TA5	DIODE
D1201	LN81RPHL	DIODE
D1203	MA4082	DIODE
D1204	TVSS1WBS10	DIODE
D1205	MA165TA5	DIODE
D1207	MA165TA5	DIODE
D1208	MA165TA5	DIODE
D1209	MA165TA5	DIODE
D2303	MA165TA5	DIODE
D2304	MA4091	DIODE
D3001	MA4120	DIODE
D3003	MA4082	DIODE
D3004	MA4100	DIODE
D3005	MA4120	DIODE
D3006	MA4120	DIODE
D3007	MA4120	DIODE
D3008	MA4082	DIODE
D3009	MA4082	DIODE
D3010	MA4082	DIODE
D3011	MA4082	DIODE
D3012	MA4120	DIODE
D3013	MA4120	DIODE
D3014	MA4120	DIODE
D3015	MA4120	DIODE
D3016	MA4120	DIODE
D3018	MA165TA5	DIODE

Ref No.	Part No.	Description
D3019	MA165TA5	DIODE
D3501	MA165TA5	DIODE

FUSES

F801	19181-3.15	FUSE	⚠
F851	TR5-T1250	FUSE	⚠
F852	TR5-T2000	FUSE	⚠
F853	TR5-T2000	FUSE	⚠
F8011	EYF52BC	FUSE HOLDER	
F8012	EYF52BC	FUSE HOLDER	

SOCKETS

H1202	832AG11D-ESL	I.C.SOCKET

INTEGRATED CIRCUITS

IC102	LA7577N	V.I.F.
IC103	L78M12MRB	12V REGULATOR
IC1051	RPM-637CBRL	L.E.D. RECEIVER
IC1201	CCU3000I-05	CENTRAL CONTROL UNIT
IC1202	27C010-08AME	EPROM
IC1205	MN1280R	RESET
IC1206	L78M05MRB	5V REGULATOR
IC2101	MSP3410-15	AUDIO PROCESSOR
IC2301	AN78L08TA	8V REGULATOR
IC251	LA4280-TV	AUDIO OUTPUT
IC3001	TEA6415C	A.V. SWITCHING
IC3501	UD61256DC-08	DYNAMIC RAM
IC3502	TPU3040-20	TEXT PROCESSING UNIT
IC351	TDA6103Q	RGB AMPLIFIER
IC451	TDA8175-3	VERTICAL OUTPUT
IC601	VDP3108-25	VIDEO PROCESSOR
IC701	TEA2031A	HORIZONTAL OUTPUT
IC801	TDA4601	I.C.POWER SUPPLY
IC851	L78M12MRB	12V REGULATOR

TERMINALS AND LINKS

JA.1	ERJ6GEY0R00	WIRE LINK
JA.1	ERJ8GEY0R00	WIRE LINK
JA.10	ERJ6GEY0R00	WIRE LINK
JA.11	ERJ6GEY0R00	WIRE LINK
JA.11	ERJ8GEY0R00	WIRE LINK
JA.12	ERJ6GEY0R00	WIRE LINK
JA.12	ERJ8GEY0R00	WIRE LINK
JA.13	ERJ6GEY0R00	WIRE LINK
JA.14	ERJ6GEY0R00	WIRE LINK
JA.14	ERJ8GEY0R00	WIRE LINK
JA.15	ERJ6GEY0R00	WIRE LINK
JA.15	ERJ8GEY0R00	WIRE LINK
JA.16	ERJ6GEY0R00	WIRE LINK
JA.16	ERJ8GEY0R00	WIRE LINK
JA.17	ERJ6GEY0R00	WIRE LINK
JA.17	ERJ8GEY0R00	WIRE LINK
JA.18	ERJ6GEY0R00	WIRE LINK
JA.19	ERJ6GEY0R00	WIRE LINK
JA.2	ERJ6GEY0R00	WIRE LINK
JA.2	ERJ8GEY0R00	WIRE LINK
JA.20	ERJ6GEY0R00	WIRE LINK
JA.21	ERJ6GEY0R00	WIRE LINK
JA.22	ERJ6GEY0R00	WIRE LINK
JA.22	ERJ8GEY0R00	WIRE LINK
JA.23	ERJ6GEY0R00	WIRE LINK
JA.24	ERJ6GEY0R00	WIRE LINK
JA.25	ERJ6GEY0R00	WIRE LINK
JA.25	ERJ8GEY0R00	WIRE LINK
JA.26	ERJ6GEY0R00	WIRE LINK
JA.27	ERJ6GEY0R00	WIRE LINK

Ref No.	Part No.	Description
JA.28	ERJ6GEY0R00	WIRE LINK
JA.29	ERJ6GEY0R00	WIRE LINK
JA.3	ERJ6GEY0R00	WIRE LINK
JA.3	ERJ8GEY0R00	WIRE LINK
JA.30	ERJ6GEY0R00	WIRE LINK
JA.31	ERJ6GEY0R00	WIRE LINK
JA.32	ERJ6GEY0R00	WIRE LINK
JA.33	ERJ6GEY0R00	WIRE LINK
JA.34	ERJ6GEY0R00	WIRE LINK
JA.35	ERJ6GEY0R00	WIRE LINK
JA.36	ERJ6GEY0R00	WIRE LINK
JA.37	ERJ6GEY0R00	WIRE LINK
JA.38	ERJ6GEY0R00	WIRE LINK
JA.39	ERJ6GEY0R00	WIRE LINK
JA.4	ERJ6GEY0R00	WIRE LINK
JA.4	ERJ8GEY0R00	WIRE LINK
JA.5	ERJ6GEY0R00	WIRE LINK
JA.6	ERJ6GEY0R00	WIRE LINK
JA.6	ERJ8GEY0R00	WIRE LINK
JA.7	ERJ6GEY0R00	WIRE LINK
JA.7	ERJ8GEY0R00	WIRE LINK
JA.8	ERJ6GEY0R00	WIRE LINK
JA.9	ERJ6GEY0R00	WIRE LINK
JK2301	TJB18644	AV TERMINAL
JK3001	TJS8E007	21PIN TERMINAL
JK3101	TJS8E007	21PIN TERMINAL
JSB.5	ERJ6GEY0R00	WIRE LINK
JSE.31	ERJ6GEY0R00	WIRE LINK
JSE011	ERJ6GEY0R00	WIRE LINK
JSE012	ERJ6GEY0R00	WIRE LINK
JSE013	ERJ6GEY0R00	WIRE LINK
JSE014	ERJ6GEY0R00	WIRE LINK
JSE015	ERJ6GEY0R00	WIRE LINK
JSE016	ERJ6GEY0R00	WIRE LINK
JSE032	ERJ6GEY0R00	WIRE LINK
J196	EXCELSA35T	COIL

COILS

L001	TLT100K991R	COIL
L002	TLT047K991R	COIL
L102	EIV7EN200B	COIL
L103	TLT100K991R	COIL
L104	EIV7EN201B	COIL
L105	TLT082K991R	COIL
L106	TLT022K991R	COIL
L109	TLTR47K991R	COIL
L111	TLTR82K991R	COIL
L112	EXCELSA35T	COIL
L113	EXCELSA35T	COIL
L202	TLT068K991R	COIL
L251	EXCELSA35T	COIL
L301	TLT047K991R	COIL
L302	EXCEMT101BT	COIL
L303	EXCEMT101BT	COIL
L304	EXCEMT101BT	COIL
L601	TLT047K991R	COIL
L602	EXCELDR35V	COIL
L603	TLT047K991R	COIL
L604	EXCELDR35V	COIL
L606	TLT015K991R	COIL
L607	EXCELSA35T	COIL
L701	ELC10D006	COIL
L801	298-19711	COIL
L802	TLT022K991R	COIL
L803	ELF18D490F	COIL
L804	ELESN4R7KA	COIL
L805	298-82858001	COIL
L851	EXCELDR35V	COIL
L852	EXCELSA35T	COIL
L853	ELEIE470KA	COIL

Ref No.	Part No.	Description
L854	ELEIN470KA	COIL
L855	ELEIN470KA	COIL
L856	ELEIN470KA	COIL
L1051	TLT331K991R	COIL
L1201	TLT047K991R	COIL
L1202	TLT047K991R	COIL
L1203	TLT047K991R	COIL
L1204	EXCELDR35V	COIL
L2101	TLT100K991R	COIL
L2102	TLT039K991R	COIL
L2103	EXCELSA35T	COIL
L2104	EXCELSA35T	COIL
L3151	EXCEMT101BT	COIL
L3152	EXCEMT101BT	COIL
L3153	EXCEMT101BT	COIL
L3154	EXCEMT101BT	COIL
L3155	ELEBT6R8KA	COIL
L3156	ELEBT6R8KA	COIL
L3158	EXCELSA39V	COIL
L3501	EXCELDR35V	COIL
L3502	EXCELDR35V	COIL
L3503	ELESN4R7KA	COIL
L3504	EXCELSA35T	COIL

TRANSISTORS

Q101	BF370-126	TRANSISTOR
Q102	BF370-126	TRANSISTOR
Q103	BC847B	TRANSISTOR
Q201	BC847B	TRANSISTOR
Q202	BC847B	TRANSISTOR
Q251	2SD1328STX	TRANSISTOR
Q252	2SD1328STX	TRANSISTOR
Q253	BC847B	TRANSISTOR
Q301	BC857B	TRANSISTOR
Q302	BC847B	TRANSISTOR
Q303	BC857B	TRANSISTOR
Q304	BC847B	TRANSISTOR
Q305	BC857B	TRANSISTOR
Q306	BC847B	TRANSISTOR
Q307	BC847B	TRANSISTOR
Q308	BC847B	TRANSISTOR
Q309	BC847B	TRANSISTOR
Q310	BC847B	TRANSISTOR
Q311	BC847B	TRANSISTOR
Q351	2SA1767	TRANSISTOR
Q352	2SA1767	TRANSISTOR
Q353	2SA1767	TRANSISTOR
Q451	BC847B	TRANSISTOR
Q501	BC847B	TRANSISTOR
Q502	BC847B	TRANSISTOR
Q503	2SD836-AL	TRANSISTOR
Q504	BC847B	TRANSISTOR
Q552	2SC1473-RN	TRANSISTOR
Q701	BC857B	TRANSISTOR
Q801	2SC1573	TRANSISTOR
Q802	S2000NLBMA	TRANSISTOR
Q851	2SD1273PLB	TRANSISTOR
Q852	TFD312SOF632	DIODE
Q1201	BC847B	TRANSISTOR
Q1202	BC847B	TRANSISTOR
Q1205	BC847B	TRANSISTOR
Q1206	BC847B	TRANSISTOR
Q1207	BC847B	TRANSISTOR
Q1208	BC857B	TRANSISTOR
Q2101	BC860B	TRANSISTOR
Q2102	BC860B	TRANSISTOR
Q2301	BC857B	TRANSISTOR
Q2302	BC857B	TRANSISTOR
Q2305	2SD1328STX	TRANSISTOR
Q2306	2SD1328STX	TRANSISTOR

Ref No.	Part No.	Description
Q2307	BC860B	TRANSISTOR
Q2308	BC857B	TRANSISTOR
Q2309	BC860B	TRANSISTOR
Q2310	BC860B	TRANSISTOR
Q3001	2SC1318-S	TRANSISTOR
Q3004	BC847B	TRANSISTOR
Q3005	BC847B	TRANSISTOR
Q3006	2SC1318-S	TRANSISTOR
Q3011	BC857B	TRANSISTOR
Q3012	2SD1328STX	TRANSISTOR
Q3013	2SD1328STX	TRANSISTOR

RESISTOR

R.107	ERJ6GEY0R00	WIRE LINK		
R.109	ERJ6GEY0R00	WIRE LINK		
R.123	ERJ6GEY0R00	WIRE LINK		
R.139	ERJ6GEY0R00	WIRE LINK		
R.142	ERJ6GEY0R00	WIRE LINK		
R.143	ERJ6GEY0R00	WIRE LINK		
R.203	ERJ6GEY0R00	WIRE LINK		
R.604	ERJ6GEY0R00	WIRE LINK		
R.622	ERJ6GEY0R00	WIRE LINK		
R001	ERJ6GEYJ223	S.M.CARB	0.1W	5% 22KΩ
R002	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R003	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R004	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R113	ERJ6GEYJ153	S.M.CARB	0.1W	5% 15KΩ
R116	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R117	ERJ6GEYJ683	S.M.CARB	0.1W	5% 68KΩ
R118	ERJ6ENF4701	SM.CARB	0.125W	1% 700Ω
R119	ERJ6ENF1202	SM.CARB	0.125W	1% 2KΩ
R120	ERJ6GEYJ102	S.M.CARB	0.1W	5% 1KΩ
R121	ERJ6GEYJ201	SM.CARB	0.125W	5% 200Ω
R122	ERJ6GEYJ470	S.M.CARB	0.1W	5% 47Ω
R124	ERJ6GEYJ682	S.M.CARB	0.1W	5% 6K8Ω
R125	ERJ6GEYJ102	S.M.CARB	0.1W	5% 1KΩ
R126	EVNDXAA03B53	CONTROL		5KΩ
R127	ERDS1TJ121	CARBON	0.5W	5% 120Ω
R128	ERJ6GEYJ271	S.M.CARB	0.1W	5% 270Ω
R129	ERJ6GEYJ332	S.M.CARB	0.1W	5% 3K3Ω
R130	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R131	ERJ6GEYJ102	S.M.CARB	0.1W	5% 1KΩ
R132	ERJ6GEYJ222	S.M.CARB	0.1W	5% 2K2Ω
R133	ERJ6GEYJ682	S.M.CARB	0.1W	5% 6K8Ω
R134	ERJ6GEYJ222	S.M.CARB	0.1W	5% 2K2Ω
R136	ERJ6GEYJ473	S.M.CARB	0.1W	5% 47KΩ
R137	ERJ6GEYJ563	S.M.CARB	0.1W	5% 56KΩ
R138	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R141	ERJ6GEYJ102	S.M.CARB	0.1W	5% 1KΩ
R145	ERJ6GEYJ152	S.M.CARB	0.1W	5% 1K5Ω
R146	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R147	ERJ6GEYJ821	S.M.CARB	0.1W	5% 820Ω
R149	ERJ6GEYJ181	S.M.CARB	0.1W	5% 180Ω
R201	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R204	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R205	ERJ6GEYJ332	S.M.CARB	0.1W	5% 3K3Ω
R206	ERJ6GEYJ681	S.M.CARB	0.1W	5% 680Ω
R207	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R208	ERJ6GEYJ222	S.M.CARB	0.1W	5% 2K2Ω
R209	ERJ6GEYJ332	S.M.CARB	0.1W	5% 3K3Ω
R210	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R253	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R255	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R256	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R260	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R261	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R262	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R263	ERJ6GEYJ104	S.M.CARB	0.1W	5% 100KΩ
R264	ERJ6GEYJ473	S.M.CARB	0.1W	5% 47KΩ
R265	ERD25TJ2R2	CARBON	0.25W	5% 2R2Ω

Ref No.	Part No.	Description		
R266	ERD25TJ2R2	CARBON	0.25W	5% 2R2Ω
R267	ERF7ZK4R7	WOUND	7W	10% 4R7Ω ⚠
R268	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R269	ERJ6GEYJ273	S.M.CARB	0.1W	5% 27KΩ
R271	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R272	ERF7ZK5R6	WOUND	7W	10% 5R6Ω ⚠
R273	ERD25TJ273	CARBON	0.25W	5% 27KΩ
R301	ERJ6GEYJ750	S.M.CARB	0.1W	5% 75Ω
R302	ERJ6GEYJ391	S.M.CARB	0.1W	5% 390Ω
R303	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R304	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R305	ERJ6GEYJ750	S.M.CARB	0.1W	5% 75Ω
R306	ERJ6GEYJ391	S.M.CARB	0.1W	5% 390Ω
R307	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R308	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R309	ERJ6GEYJ750	S.M.CARB	0.1W	5% 75Ω
R310	ERJ6GEYJ391	S.M.CARB	0.1W	5% 390Ω
R311	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R312	ERJ6GEYJ471	S.M.CARB	0.1W	5% 470Ω
R313	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R314	ERJ6GEYJ332	S.M.CARB	0.1W	5% 3K3Ω
R315	ERJ6GEYJ332	S.M.CARB	0.1W	5% 3K3Ω
R316	ERJ6GEYJ332	S.M.CARB	0.1W	5% 3K3Ω
R321	ERJ6GEYJ473	S.M.CARB	0.1W	5% 47KΩ
R322	ERJ6GEYJ473	S.M.CARB	0.1W	5% 47KΩ
R323	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R324	ERJ6GEYJ104	S.M.CARB	0.1W	5% 100KΩ
R354	ERJ6GEYJ102	S.M.CARB	0.1W	5% 1KΩ
R355	ERJ6GEYJ102	S.M.CARB	0.1W	5% 1KΩ
R356	ERJ6GEYJ102	S.M.CARB	0.1W	5% 1KΩ
R366	ERDS1TJ152	CARBON	0.5W	5% 1K5Ω
R367	ERDS1TJ152	CARBON	0.5W	5% 1K5Ω
R368	ERDS1TJ152	CARBON	0.5W	5% 1K5Ω
R372	ERQ12AJ121	FUSABLE	12W	5% 120Ω ⚠
R373	ERJ6GEYJ220	S.M.CARB	0.1W	5% 22Ω
R375	ERJ6GEYJ684	S.M.CARB	0.1W	5% 680KΩ
R376	ERJ6GEYJ183	S.M.CARB	0.1W	5% 18KΩ
R451	ERJ6GEYJ223	S.M.CARB	0.1W	5% 22KΩ
R452	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R453	ERJ6GEYJ104	S.M.CARB	0.1W	5% 100KΩ
R455	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R456	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R457	ERJ6GEYJ682	S.M.CARB	0.1W	5% 6K8Ω
R458	ERD25TJ1R5	CARBON	0.25W	5% 1R5Ω
R459	ERJ6GEYJ470	S.M.CARB	0.1W	5% 47Ω
R460	ERJ6GEYJ183	S.M.CARB	0.1W	5% 18KΩ
R461	ERDS1TJ471	CARBON	0.5W	5% 470Ω
R462	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R463	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R465	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R466	ERO25CKF1801	METAL	0.25W	1% 1K8Ω ⚠
R472	ERDS1TJ4R7	CARBON	0.5W	5% 4R7Ω
R501	ERJ6GEYJ331	S.M.CARB	0.1W	5% 330Ω
R502	ERJ6GEYJ560	S.M.CARB	0.1W	5% 56Ω
R503	ERJ6GEYJ273	S.M.CARB	0.1W	5% 27KΩ
R504	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R506	ERD25TJ560	CARBON	0.25W	5% 56Ω
R507	ERQ14AJ3R3	METAL	0.25W	5% 3R3Ω ⚠
R509	ERDS1TJ152	CARBON	0.5W	5% 1K5Ω
R510	ERDS1TJ152	CARBON	0.5W	5% 1K5Ω
R511	ERJ6GEYJ104	S.M.CARB	0.1W	5% 100KΩ
R512	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R513	ERJ6GEYJ123	S.M.CARB	0.1W	5% 12KΩ
R514	ERJ6GEYJ123	S.M.CARB	0.1W	5% 12KΩ
R551	ERW2PKR47	WIREWOUND	2W	10% 0R47Ω ⚠
R553	ERG1SJ152	METAL	1W	5% 1.5KΩ ⚠
R558	ERDS1TJ124	CARBON	0.5W	5% 120KΩ
R561	ERJ6GEYJ563	S.M.CARB	0.1W	5% 56KΩ
R567	ERJ6GEYJ274	S.M.CARB	0.1W	5% 270KΩ
R601	ERJ6GEYJ151	S.M.CARB	0.1W	5% 150Ω

Ref No.	Part No.	Description		
R602	ERJ6GEYJ151	S.M.CARB	0.1W	5% 150Ω
R603	ERJ6GEYJ750	S.M.CARB	0.1W	5% 75Ω
R605	ERJ6GEYJ183	S.M.CARB	0.1W	5% 18KΩ
R606	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R607	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R608	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R609	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R610	ERJ6GEYJ473	S.M.CARB	0.1W	5% 47KΩ
R611	ERJ6GEYJ102	S.M.CARB	0.1W	5% 1KΩ
R612	ERJ6GEYJ123	S.M.CARB	0.1W	5% 12KΩ
R613	ERJ6GEYJ271	S.M.CARB	0.1W	5% 270Ω
R614	ERJ6GEYJ470	S.M.CARB	0.1W	5% 47Ω
R615	ERJ6GEYJ333	S.M.CARB	0.1W	5% 33KΩ
R616	ERJ6GEYJ153	S.M.CARB	0.1W	5% 15KΩ
R618	ERJ6GEYJ151	S.M.CARB	0.1W	5% 150Ω
R619	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R623	ERJ6GEYJ821	S.M.CARB	0.1W	5% 820Ω
R701	ERQ12AJ101	FUSIBLE	0.5W	5% 100Ω ⚠
R703	ERG2FJ821	METAL	2W	5% 820Ω ⚠
R704	ERJ6GEYJ563	S.M.CARB	0.1W	5% 56KΩ
R705	ERJ6GEYJ104	S.M.CARB	0.1W	5% 100KΩ
R708	ERJ6GEYJ393	S.M.CARB	0.1W	5% 39KΩ
R709	ERJ6GEYJ393	S.M.CARB	0.1W	5% 39KΩ
R710	ERJ6GEYJ273	S.M.CARB	0.1W	5% 27KΩ
R711	ERJ6GEYJ681	S.M.CARB	0.1W	5% 680Ω
R712	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R713	ERG1SJ101	METAL	1W	5% 100Ω
R801	ERG3FJ682H	METAL	3W	5% 6K8Ω ⚠
R802	ERG2FJ472	METAL	2W	5% 4.7KΩ ⚠
R803	ERX12SJWR47	METAL	12W	1% R47Ω
R804	ERJ6GEYJ682	S.M.CARB	0.1W	5% 6K8Ω
R805	ERJ6GEYJ221	S.M.CARB	0.1W	5% 220Ω
R806	ERG1SJ823	METAL	1W	5% 82KΩ ⚠
R807	ERO25CKF1201	METAL	0.25W	1% 1K2Ω ⚠
R810	ERD25TJ103	CARBON	0.25W	5% 10KΩ
R811	EVMEASA00B33	CONTROL		82KΩ
R812	ERDS1TJ220	CARBON	0.5W	5% 22Ω
R813	ERD50FJ334	CARBON	0.5W	5% 330KΩ
R814	ERF7ZK2R7	WIRE	7W	10% 2R7Ω
R817	ERG3FJ470	METAL	3W	5% 47Ω ⚠
R818	ERD50FJ564	CARBON	0.5W	5% 560KΩ
R819	ERD50FJ564	CARBON	0.5W	5% 560KΩ
R820	ERD75TAJ825	CARBON	0.75W	5% 8M2Ω ⚠
R852	ERJ6GEYJ271	S.M.CARB	0.1W	5% 270Ω
R853	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R854	ERDS1TJ474	CARBON	0.5W	5% 470KΩ
R855	ERG2FJ223	METAL	2W	5% 22KΩ ⚠
R856	ERJ6GEYJ102	S.M.CARB	0.1W	5% 1KΩ
R1201	ERJ6GEYJ271	S.M.CARB	0.1W	5% 270Ω
R1202	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R1203	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R1204	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R1205	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R1206	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R1207	ERD25TJ331	CARBON	0.25W	5% 330Ω
R1208	ERJ6GEYJ223	S.M.CARB	0.1W	5% 22KΩ
R1209	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R1210	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R1212	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R1213	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R1214	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R1215	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R1216	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R1217	ERJ6GEYJ101	S.M.CARB	0.1W	5% 100Ω
R1218	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R1219	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R1220	ERJ6GEYJ472	S.M.CARB	0.1W	5% 4K7Ω
R1221	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ
R1222	ERJ6GEYJ103	S.M.CARB	0.1W	5% 10KΩ

Ref No.	Part No.	Description			
R1224	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1225	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1226	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1227	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1229	ERJ6GEY0R00	WIRE LINK			
R1230	ERJ6GEY0R00	WIRE LINK			
R1231	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1232	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1233	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1235	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1236	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1237	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1238	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39KΩ
R1239	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9Ω
R1240	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9Ω
R1241	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1242	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1244	ERJ6GEY0R00	WIRE LINK			
R1245	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R1246	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1247	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1249	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1250	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1251	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39KΩ
R1252	ERX1SJ3R3	METAL	1W	5%	3R3Ω
R1253	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1254	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R1255	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R1256	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R1257	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1258	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1260	ERDS1FJ121	CARBON	0.5W	5%	120Ω
R2101	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2102	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2103	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2104	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2105	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2106	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18KΩ
R2107	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2108	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2109	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2110	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R2111	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ
R2301	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2302	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2303	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2304	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2313	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2314	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2315	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ
R2316	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R2318	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R2321	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R2322	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2323	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R2324	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2325	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ
R2326	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2327	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2328	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ
R2329	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2330	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2331	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22KΩ
R2332	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2333	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2334	ERJ6GEY0R00	WIRE LINK			
R2335	ERJ6GEY0R00	WIRE LINK			
R2651	ERG2FJ221	METAL	2W	5%	220Ω ⚠
R2652	ERG2FJ221	METAL	2W	5%	220Ω ⚠
R2653	ERDS1TJ151	CARBON	0.5W	5%	150Ω
R2654	ERDS1TJ151	CARBON	0.5W	5%	150Ω

Ref No.	Part No.	Description			
R3001	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3002	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3003	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3004	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3005	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3006	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3007	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3008	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3009	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3010	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3011	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3012	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3013	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3015	ERJ6GEY0R00	WIRE LINK			
R3016	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3017	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R3019	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R3020	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3022	ERD2FCG560	CARBON	2W	2%	56Ω
R3024	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R3025	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3026	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R3027	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3029	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3030	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3032	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3034	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3036	ERJ6GEYJ220	S.M.CARB	0.1W	5%	22Ω
R3037	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3038	ERD2FCG100	CARB	2W	2%	10Ω
R3039	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3040	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3041	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3042	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8Ω
R3043	ERD2FCG100	CARB	2W	2%	10Ω
R3044	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3045	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R3046	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3047	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3048	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R3049	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3050	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3051	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3052	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3053	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3054	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3055	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3056	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3057	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3058	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3059	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3060	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3062	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3063	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3064	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3065	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3066	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3067	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ
R3068	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3069	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3070	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3071	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3150	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3151	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3152	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3153	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3154	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3155	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3156	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3157	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3158	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω

Ref No.	Part No.	Description			
R3502	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3504	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3505	ERJ6GEY0R00	WIRE LINK			
R3508	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18KΩ
R3511	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3512	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω

SWITCHES

S801	ESB91232A	SWITCH	⚠
S1201	EVQ23405R	SWITCH	
S1202	EVQ23405R	SWITCH	
S1203	EVQ23405R	SWITCH	
S1204	EVQ23405R	SWITCH	
S1205	EVQ23405R	SWITCH	

TRANSFORMERS

T501	5270103200	TRANSFORMER
T1201	ETP35KAN61ZU	TRANSFORMER

FILTERS

X101	EFCS5M7MW3	CERAMIC FILTER
X103	G3355K	SAW FILTER
X105	EFCV3095A6	CHIP FILTER
X601	TSS2169–B	CRYSTAL
X1201	TSS120M2	CRYSTAL
X2101	TSS4004–B	CRYSTAL

DIFFERENCES FOR MODEL TX–21MD1E

MISCELLANEOUS COMPONENTS

Ref No.	Part No.	Description	
2)	TKY8E040	CABINET	⚠
3)	A59ECF20X12	C.R.T.	⚠
5)	TNP117070AA	Y P.C.B.	⚠
7)	TKU8E00190	REAR ,COVER	⚠
9)	TNP197091AS	E P.C.B.	⚠
16)	TLK8E05115	DEGAUSSING COIL	
	TPC8E4511	OUTER CARTON	
	SVM100	COIL	
	TBM8E1478	REAR COVER LABEL	

CAPACITORS

C254	ECQM1H334J	FILM	50V	330nF	
C259	ECQM1H334J	FILM	50V	330nF	
C262	ECEA1HN2R2	ELECT	50V	2.2μF	
C265	ECEA1HN2R2	ELECT	50V	2.2μF	
C358	ECQM1H224J	FILM	50V	220nF	
C364	ECUV1H103ZFX	S.M.CAP	50V	10nF	
C366	ECEA1CM100GB	ELECT	16V	10pF	
C455	ECEA1VGE222	ELECT	35V	2200μF	
C457	ECUV1H223KBX	S.M.CAP	50V	22nF	
C459	ECQM1H224J	FILM	50V	220nF	
C461	ECQM1H684J	FILM	50V	680nF	
C551	ECWH15H472J	FILM	1500V	4.7nF	
C552	ECWH15H102H	FILM	1500V	1.0nF	
C554	ECWF2H514J	FILM	500V	510nF	⚠
C556	ECQM4333JC	FILM	400V	33nF	
C559	ECWF2H684J	FILM	500V	680nF	⚠
C560	ECEA2GGE2R2	ELECT	400V	2R2μF	
C701	ECEA1HGE101	ELECT	50V	100μF	
C703	ECEA1HGE100	ELECT	50V	10μF	
C705	ECQB1H102J	FILM	50V	1nF	
C820	ECOS2GG181NG	ELECT	400V	180μF	⚠
C857	ECEA2EU101	ELECT	250V	100μF	
C861	ECOS2EA221AB	ELECT	400V	220μF	
C901	ECUV1H030CCX	S.M.CAP	50V	30pF	
C902	ECEA1VU101	ELECT	35V	100μF	
C903	ECEA1CM470GB	ELECT	16V	47pF	
C904	ECUV1H103ZFX	S.M.CAP	50V	10nF	
C905	ECEA1HM4R7GB	ELECT	50V	4R7μF	
C906	ECUV1H471KBX	S.M.CAP	50V	470pF	
C907	ECUV1H271JCX	S.M.CAP	50V	270pF	
C908	ECUV1H151JCX	S.M.CAP	50V	150pF	
C909	ECKC2H472J	CERAMIC	500V	4.7nF	⚠
C910	ECKC2H472J	CERAMIC	500V	4.7nF	⚠
C911	ECUV1H151JCX	S.M.CAP	50V	150pF	

Ref No.	Part No.	Description		
C912	ECEA2CU100	ELECT	160V	10μF
C913	ECEA1CM101GB	ELECT	16V	100pF
C914	ECEA1CM101GB	ELECT	16V	100pF
C915	ECDA1CM471GB	ELECT	16V	470pF
C916	ECEA2CU100	ELECT	160V	10μF

DIODES

D901	MA165TA5	DIODE
D902	MA165TA5	DIODE

INTEGRATED CIRCUITS

IC1203	X24C16P–MD1E EAROM

TERMINALS AND LINKS

JA1	ERJ6GEY0R00	WIRE LINK

COILS

L352	SDL–4101	COIL
L353	SDL–4101	COIL
L354	SDL–4101	COIL
L552	ELH5L421	COIL
L553	ELC08D055	COIL
L554	297–23293	COIL
L901	EXCELSA24T	COIL
L902	EXCELSA24T	COIL

TRANSISTORS

Q551	2SD1577LB	TRANSISTOR
Q901	BC847B	TRANSISTOR
Q902	BC847B	TRANSISTOR
Q903	BC847B	TRANSISTOR
Q904	BC857B	TRANSISTOR
Q905	BC847B	TRANSISTOR
Q906	BC847B	TRANSISTOR
Q907	BC857B	TRANSISTOR
Q908	2SA1535ARLB	TRANSISTOR
Q909	2SC3944ARLB	TRANSISTOR

RESISTOR

R251	ERJ6GEYJ820	S.M.CARB	0.1W	5%	82Ω
R252	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2Ω
R254	ERJ6GEYJ820	S.M.CARB	0.1W	5%	82Ω
R257	ERJ6GEYJ100	S.M.CARB	0.1W	5%	10Ω

Ref No.	Part No.	Description			
R258	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1KΩ
R259	ERJ6GEYJ100	S.M.CARB	0.1W	5%	10Ω
R351	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R352	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R353	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R357	ERG1SJ683	METAL	1W	5%	68KΩ ⚠
R358	ERG1SJ683	METAL	1W	5%	68KΩ ⚠
R359	ERG1SJ683	METAL	1W	5%	68KΩ ⚠
R363	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R364	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R365	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R369	ERD25TJ203	CARBON	0.25W	5%	20KΩ
R370	ERJ6GEYJ822	S.M.CARB	0.1W	5%	8K2Ω
R374	ERD25TJ274	CARBON	0.25W	5%	270KΩ
R377	ERQ12HKR82	FUSABLE	12W	10%	R82Ω ⚠
R381	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R382	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R383	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R464	ERW12PKR68	WIRE	12W	10%	R68Ω
R467	ERO25CKF1801	METAL	0.25W	1%	1K8Ω ⚠
R471	ERDS1TJ152	CARBON	0.5W	5%	1K5Ω
R554	ERQ14AJW101	FUSABLE	14W	X%	100Ω ⚠
R562	ERJ6GEYJ155	SM.CARB	0.125W	5%	1.5MΩ
R563	ERJ6GEYJ155	SM.CARB	0.125W	5%	1.5MΩ
R564	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39KΩ
R566	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ
R702	ERQ12HJ220	METAL	0.5W	5%	22Ω ⚠
R706	ERJ6GEYJ242	S.M.CARB	0.1W	5%	2K4Ω
R707	ERJ6GEYJ911	S.M.CARB	0.1W	5%	910Ω
R808	232266296706	THERMISTOR			
R809	ERO25CKF1332	METAL	25W	1%	13KΩ ⚠
R901	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6Ω
R902	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6Ω
R903	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6Ω
R904	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R905	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680Ω

Ref No.	Part No.	Description			
R906	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22KΩ
R907	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R908	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R909	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R910	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R911	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5Ω
R913	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18KΩ
R914	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R915	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8Ω
R916	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220Ω
R917	ERJ6GEYJ121	S.M.CARB	0.1W	5%	120Ω
R919	ERQ14AJ390	FUSABLE	14W	5%	39Ω ⚠
R920	ERQ14AJ390	FUSABLE	14W	5%	39Ω ⚠
R921	ERD25TJ471	CARBON	0.25W	5%	470Ω
R922	ERD25TJ393	CARBON	0.25W	5%	39KΩ
R923	ERD25TJ393	CARBON	0.25W	5%	39KΩ
R924	ERDS1FJ390	CARBON	0.5W	5%	39Ω
R925	ERJ6GEY0R00	WIRE LINK			
R926	ERJ6GEY0R00	WIRE LINK			
R927	ERD25TJ471	CARBON	0.25W	5%	470Ω
R928	ERD25TJ2R7	CARBON	0.25W	5%	2R7Ω
R929	ERDS1FJ471	CARBON	0.5W	5%	470Ω
R930	ERD25TJ2R7	CARBON	0.25W	5%	2R7Ω
R931	ERDS1FJ390	CARBON	0.5W	5%	39Ω
R932	ERDS1FJ101	CARBON	0.5W	5%	100Ω ⚠
R933	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R934	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R935	ERQ14AJ3R9	FUSIBLE	0.25W	5%	3R9Ω ⚠
R936	ERQ1CJP331	METAL	1W	5%	330Ω ⚠
R937	ERQ14AJ100	METAL	0.25W	5%	10Ω ⚠

TRANSFORMERS

T551	ZTFH65008A	TRANSFORMER
T801	TLP8E1002	TRANSFORMER

DIFFERENCES FOR MODEL TX–25MD1E

Ref No.	Part No.	Description			
MISCELLANEOUS COMPONENTS					
	A51EAL55X01	C.R.T.			⚠
	TBM8E1477–1	REAR COVER LABEL			
	TKU8E00180	REAR COVER			⚠
	TKY8E039	CABINET			⚠
	TLK8E05117	DEGUASSE COIL			
	TNP117069AA	Y P.C.B.			⚠
	TNP197091AR	E P.C.B.			⚠
	TPC8E4510	OUTER CARTON			
	X24C16P–F1E	EAROM			
CAPACITORS					
C254	ECQM1H224J	FILM	50V	220nF	
C259	ECQM1H224J	FILM	50V	220nF	
C262	ECEA1HN010	ELECT	50V	1μF	
C265	ECEA1HN010	ELECT	50V	1μF	
C358	ECQB1H224J	FILM	50V	0.22μF	
C455	ECEA1VU222	ELECT	35V	2200μF	
C457	ECUV1H103KBX	S.M.CAP	50V	10nF	
C459	ECQM1H154J	FILM	50V	150nF	
C463	ECQB1H222J	FILM	50V	2200pF	
C551	ECWH12H272J	CERAMIC	500V	2.7nF	⚠
C552	ECWH12H102J	FILM	1.0nF		
C556	ECQF4273JZH	FILM	400V	0.027μF	
C559	ECWF2H474J	FILM	500V	470nF	⚠
C701	ECEA1HU101	ELECT	50V	100μF	
C703	ECEA1HU100	ELECT	50V	10μF	

Ref No.	Part No.	Description			
C705	ECQB1H152K	FILM	50V	1.5nF	
C820	ECOS2GA151CB	ELECT	400V	150pF	
C857	ECEA2CM101E	ELECT	160V	100pF	
C861	ECA2CGE221	ELECT	160V	220μF	

COILS

L552	ELH5L429	COIL

TRANSISTORS

Q551	BU2506DXLB	TRANSISTOR

RESISTOR

Ref No.	Part No.	Description			
R251	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R252	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5Ω
R254	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R257	ERJ6GEYJ2R2	SM.CARB	0.125W	5%	2R2Ω
R258	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5Ω
R259	ERJ6GEYJ2R2	SM.CARB	0.125W	5%	2R2Ω
R351	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8Ω
R352	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8Ω
R353	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8Ω
R357	ERG1SJ563	METAL	1W	5%	56KΩ ⚠
R358	ERG1SJ563	METAL	1W	5%	56KΩ ⚠
R359	ERG1SJ563	METAL	1W	5%	56KΩ ⚠
R363	ERDS1TJ103	CARBON	0.5W	5%	10KΩ
R364	ERDS1TJ103	CARBON	0.5W	5%	10KΩ

TX – 25MD1E
TX – 21MD1E

Ref No.	Part No.	Description			
R365	ERDS1TJ103	CARBON	0.5W	5%	10KΩ
R369	ERD25TJ223	CARBON	0.25W	5%	22KΩ
R370	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R374	ERDS1TJ274	CARBON	0.5W	5%	270KΩ
R377	ERQ12HJ1R2	METAL	0.5W	5%	1R2Ω ⚠
R378	ERJ6GEY0R00	WIRE LINK			
R379	ERJ6GEY0R00	WIRE LINK			
R380	ERJ6GEY0R00	WIRE LINK			
R464	ERW12PK1R5	WIRE	12W	10%	1R5Ω
R467	ERO25CKF1201	METAL	0.25W	1%	1K2Ω ⚠
R471	ERDS1TJ102	CARBON	0.5W	5%	1KΩ
R562	ERJ6GEYJ225	SM.CARB	0.125W	5%	2.2MΩ
R563	ERJ6GEYJ225	SM.CARB	0.125W	5%	2.2MΩ
R564	ERJ6GEYJ623	SM.CARB	0.125W	5%	62KΩ

Ref No.	Part No.	Description			
R566	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ
R702	ERQ12HJ330	METAL	0.5W	5%	33Ω ⚠
R706	ERJ6GEYJ272	S.M.CARB	0.1W	5%	2K7Ω
R707	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2Ω
R808	232266296319	THERMISTOR			
R809	ERO25CKF1302	METAL	0.25W	1%	13KΩ ⚠

TRANSFORMERS

T551	ZTFH44007A	F.B.T	⚠
T801	TLP8E1001	TRANSFORMER	

ORDER NO.SM-95058

Service Manual

SUPPLEMENT-1

Colour Television

TX-25MD1E

TX-21MD1E

EURO 2 Chassis

NOTE:
THIS SUPPLEMENT SHOULD BE USED IN CONJUNCTION WITH THE TX-25MD1E/TX-21MD1E SERVICE MANUAL

DIFFERENCES FOR MODEL TX-25MD1E

Ref No.	Part No.	Description		
MISCELLANEOUS COMPONENTS				
2)	TKY8E040	CABINET		⚠
3)	A59ECF20X12	C.R.T.		⚠
5)	TNP117070AA	Y P.C.B.		⚠
6)	TBM8E1478	REAR COVER LABEL		
7)	TKU8E00190	REAR COVER		⚠
9)	TNP197091AS	E P.C.B.		⚠
16)	TLK8E05115	DEGAUSS COIL		⚠
	TPC8E4511	OUTER CARTON		
	SVM100	COIL		
CAPACITORS				
C254	ECQM1H334J	FILM	50V 330nF	
C259	ECQM1H334J	FILM	50V 330nF	
C262	ECEA1HN2R2	ELECT	50V 2.2μF	
C265	ECEA1HN2R2	ELECT	50V 2.2μF	
C358	ECQM1H224J	FILM	50V 220nF	
C364	ECUV1H103ZFX	S.M.CAP	50V 10nF	
C366	ECEA1CM100GB	ELECT	16V 10pF	
C455	ECEA1VGE222	ELECT	35V 2200μF	
C457	ECUV1H223KBX	S.M.CAP	50V 22nF	
C459	ECQM1H224J	FILM	50V 220nF	
C461	ECQM1H684J	FILM	50V 680nF	
C551	ECWH15H472J	FILM	1500V 4.7nF	
C552	ECWH15H102H	FILM	1500V 1.0nF	
C554	ECWF2H514J	FILM	500V 510nF	⚠
C556	ECQM4333JC	FILM	400V 33nF	
C559	ECWF2H684J	FILM	500V 680nF	⚠
C560	ECEA2GGE2R2	ELECT	400V 2R2μF	
C701	ECEA1HGE101	ELECT	50V 100μF	
C703	ECEA1HGE100	ELECT	50V 10μF	
C705	ECQB1H102J	FILM	50V 1nF	
C820	ECOS2GG181NG	ELECT	400V 180μF	⚠
C857	ECEA2EU101	ELECT	250V 100μF	
C861	ECOS2EA221AB	ELECT	400V 220μF	
C901	ECUV1H030CCX	S.M.CAP	50V 30pF	
C902	ECEA1VU101	ELECT	35V 100μF	
C903	ECEA1CM470GB	ELECT	16V 47pF	
C904	ECUV1H103ZFX	S.M.CAP	50V 10nF	
C905	ECEA1HM4R7GB	ELECT	50V 4R7μF	
C906	ECUV1H471KBX	S.M.CAP	50V 470pF	
C907	ECUV1H271JCX	S.M.CAP	50V 270pF	
C908	ECUV1H151JCX	S.M.CAP	50V 150pF	
C909	ECKC2H472J	CERAMIC	500V 4.7nF	⚠
C910	ECKC2H472J	CERAMIC	500V 4.7nF	⚠
C911	ECUV1H151JCX	S.M.CAP	50V 150pF	
C912	ECEA2CU100	ELECT	160V 10μF	
C913	ECEA1CM101GB	ELECT	16V 100pF	
C914	ECEA1CM101GB	ELECT	16V 100pF	
C915	ECDA1CM471GB	ELECT	16V 470pF	
C916	ECEA2CU100	ELECT	160V 10μF	

Ref No.	Part No.	Description		
DIODES				
D901	MA165TA5	DIODE		
D902	MA165TA5	DIODE		
INTEGRATED CIRCUITS				
IC1203	X24C16P-MD1E	EAROM		
TERMINALS AND LINKS				
JA1	ERJ6GEY0R00	WIRE LINK		
COILS				
L352	SDL-4101	COIL		
L353	SDL-4101	COIL		
L354	SDL-4101	COIL		
L552	ELH5L421	COIL		
L553	ELC08D055	COIL		
L554	297-23293	COIL		
L901	EXCELSA24T	COIL		
L902	EXCELSA24T	COIL		
TRANSISTORS				
Q551	2SD1577LB	TRANSISTOR		
Q901	BC847B	TRANSISTOR		
Q902	BC847B	TRANSISTOR		
Q903	BC847B	TRANSISTOR		
Q904	BC857B	TRANSISTOR		
Q905	BC847B	TRANSISTOR		
Q906	BC847B	TRANSISTOR		
Q907	BC857B	TRANSISTOR		
Q908	2SA1535ARLB	TRANSISTOR		
Q909	2SC3944ARLB	TRANSISTOR		
RESISTOR				
R251	ERJ6GEYJ820	S.M.CARB	0.1W 5% 82Ω	
R252	ERJ6GEYJ122	S.M.CARB	0.1W 5% 1K2Ω	
R254	ERJ6GEYJ820	S.M.CARB	0.1W 5% 82Ω	
R257	ERJ6GEYJ100	S.M.CARB	0.1W 5% 10Ω	
R258	ERJ6GEYJ122	S.M.CARB	0.1W 5% 1K2Ω	
R259	ERJ6GEYJ100	S.M.CARB	0.1W 5% 10Ω	
R351	ERJ6GEYJ102	S.M.CARB	0.1W 5% 1KΩ	
R352	ERJ6GEYJ102	S.M.CARB	0.1W 5% 1KΩ	
R353	ERJ6GEYJ102	S.M.CARB	0.1W 5% 1KΩ	
R357	ERG1SJ683	METAL	1W 5% 68KΩ	⚠
R358	ERG1SJ683	METAL	1W 5% 68KΩ	⚠
R359	ERG1SJ683	METAL	1W 5% 68KΩ	⚠
R363	ERD25TJ103	CARBON	0.25W 5% 10KΩ	
R364	ERD25TJ103	CARBON	0.25W 5% 10KΩ	
R365	ERD25TJ103	CARBON	0.25W 5% 10KΩ	
R369	ERD25TJ203	CARBON	0.25W 5% 20KΩ	
R370	ERJ6GEYJ822	S.M.CARB	0.1W 5% 8K2Ω	
R374	ERD25TJ274	CARBON	0.25W 5% 270KΩ	
R377	ERQ12HKR82	FUSABLE	12W 10% R82Ω	⚠
R381	ERJ6GEYJ102	S.M.CARB	0.1W 5% 1KΩ	
R382	ERJ6GEYJ102	S.M.CARB	0.1W 5% 1KΩ	
R383	ERJ6GEYJ102	S.M.CARB	0.1W 5% 1KΩ	

Ref No.	Part No.	Description		
R464	ERW12PKR68	WIRE	12W 10% R68Ω	
R467	ERO25CKF1801	METAL	0.25W 1% 1K8Ω	⚠
R471	ERDS1TJ152	CARBON	0.5W 5% 1K5Ω	
R554	ERQ14AJW101	FUSABLE	14W X% 100Ω	⚠
R562	ERJ6GEYJ155	SM.CARB	0.125W 5% 1.5MΩ	
R563	ERJ6GEYJ155	SM.CARB	0.125W 5% 1.5MΩ	
R564	ERJ6GEYJ393	S.M.CARB	0.1W 5% 39KΩ	
R566	ERJ6GEYJ273	S.M.CARB	0.1W 5% 27KΩ	
R702	ERQ12HJ220	METAL	0.5W 5% 22Ω	⚠
R706	ERJ6GEYJ242	S.M.CARB	0.1W 5% 2K4Ω	
R707	ERJ6GEYJ911	S.M.CARB	0.1W 5% 910Ω	
R808	232266296706	THERMISTOR		
R809	ERO25CKF1332	METAL	25W 1% 13KΩ	⚠
R901	ERJ6GEYJ562	S.M.CARB	0.1W 5% 5K6Ω	
R902	ERJ6GEYJ562	S.M.CARB	0.1W 5% 5K6Ω	
R903	ERJ6GEYJ562	S.M.CARB	0.1W 5% 5K6Ω	
R904	ERJ6GEYJ102	S.M.CARB	0.1W 5% 1KΩ	
R905	ERJ6GEYJ681	S.M.CARB	0.1W 5% 680Ω	
R906	ERJ6GEYJ223	S.M.CARB	0.1W 5% 22KΩ	
R907	ERJ6GEYJ472	S.M.CARB	0.1W 5% 4K7Ω	
R908	ERJ6GEYJ471	S.M.CARB	0.1W 5% 470Ω	
R909	ERJ6GEYJ102	S.M.CARB	0.1W 5% 1KΩ	
R910	ERJ6GEYJ101	S.M.CARB	0.1W 5% 100Ω	
R911	ERJ6GEYJ152	S.M.CARB	0.1W 5% 1K5Ω	
R913	ERJ6GEYJ183	S.M.CARB	0.1W 5% 18KΩ	
R914	ERJ6GEYJ222	S.M.CARB	0.1W 5% 2K2Ω	

Ref No.	Part No.	Description		
R915	ERJ6GEYJ182	S.M.CARB	0.1W 5% 1K8Ω	
R916	ERJ6GEYJ221	S.M.CARB	0.1W 5% 220Ω	
R917	ERJ6GEYJ121	S.M.CARB	0.1W 5% 120Ω	
R919	ERQ14AJ390	FUSABLE	14W 5% 39Ω	⚠
R920	ERQ14AJ390	FUSABLE	14W 5% 39Ω	⚠
R921	ERD25TJ471	CARBON	0.25W 5% 470Ω	
R922	ERD25TJ393	CARBON	0.25W 5% 39KΩ	
R923	ERD25TJ393	CARBON	0.25W 5% 39KΩ	
R924	ERDS1FJ390	CARBON	0.5W 5% 39Ω	
R925	ERJ6GEY0R00	WIRE LINK		
R926	ERJ6GEY0R00	WIRE LINK		
R927	ERD25TJ471	CARBON	0.25W 5% 470Ω	
R928	ERD25TJ2R7	CARBON	0.25W 5% 2R7Ω	
R929	ERDS1FJ471	CARBON	0.5W 5% 470Ω	
R930	ERD25TJ2R7	CARBON	0.25W 5% 2R7Ω	
R931	ERDS1FJ390	CARBON	0.5W 5% 39Ω	
R932	ERDS1FJ101	CARBON	0.5W 5% 100Ω	⚠
R933	ERJ6GEYJ103	S.M.CARB	0.1W 5% 10KΩ	
R934	ERJ6GEYJ222	S.M.CARB	0.1W 5% 2K2Ω	
R935	ERQ14AJ3R9	FUSIBLE	0.25W 5% 3R9Ω	⚠
R936	ERQ1CJP331	METAL	1W 5% 330Ω	⚠
R937	ERQ14AJ100	METAL	0.25W 5% 10Ω	⚠
TRANSFORMERS				
T551	ZTFH65008A	F.B.T		⚠
T801	TLP8E1002	TRANSFORMER		

DIFFERENCES FOR MODEL TX-21MD1E

Ref No.	Part No.	Description		
MISCELLANEOUS COMPONENTS				
2)	TKY8E039	CABINET		⚠
3)	A51EAL55X01	C.R.T.		⚠
5)	TNP117069AA	Y P.C.B.		⚠
6)	TBM8E1477-1	REAR COVER LABEL		
7)	TKU8E00180	REAR COVER		⚠
9)	TNP197091AR	E P.C.B.		⚠
16)	TLK8E05117	DEGAUSS COIL		⚠
	TPC8E4510	OUTER CARTON		
CAPACITORS				
C254	ECQM1H224J	FILM	50V 220nF	
C259	ECQM1H224J	FILM	50V 220nF	
C262	ECEA1HN010	ELECT	50V 1μF	
C265	ECEA1HN010	ELECT	50V 1μF	
C358	ECQB1H224J	FILM	50V 0.22μF	
C455	ECEA1VU222	ELECT	35V 2200μF	
C457	ECUV1H103KBX	S.M.CAP	50V 10nF	
C459	ECQM1H154J	FILM	50V 150nF	
C463	ECQB1H222J	FILM	50V 2200pF	
C551	ECWH12H272J	CERAMIC	500V 2.7nF	⚠
C552	ECWH12H102J	FILM	1.0nF	
C556	ECQF4273JZH	FILM	400V 0.027μF	
C559	ECWF2H474J	FILM	500V 470nF	⚠
C701	ECEA1HU101	ELECT	50V 100μF	
C703	ECEA1HU100	ELECT	50V 10μF	
C705	ECQB1H152K	FILM	50V 1.5nF	
C820	ECOS2GA151CB	ELECT	400V 150pF	
C857	ECEA2CM101E	ELECT	160V 100pF	
C861	ECA2CGE221	ELECT	160V 220μF	
INTEGRATED CIRCUITS				
IC1203	X24C16P-F1E	EAROM		
COILS				
L552	ELH5L429	COIL		
TRANSISTORS				
Q551	BU2506DXLB	TRANSISTOR		

Ref No.	Part No.	Description		
RESISTOR				
R251	ERJ6GEYJ101	S.M.CARB	0.1W 5% 100Ω	
R252	ERJ6GEYJ152	S.M.CARB	0.1W 5% 1K5Ω	
R254	ERJ6GEYJ101	S.M.CARB	0.1W 5% 100Ω	
R257	ERJ6GEYJ2R2	SM.CARB	0.125W 5% 2R2Ω	
R258	ERJ6GEYJ152	S.M.CARB	0.1W 5% 1K5Ω	
R259	ERJ6GEYJ2R2	SM.CARB	0.125W 5% 2R2Ω	
R351	ERJ6GEYJ182	S.M.CARB	0.1W 5% 1K8Ω	
R352	ERJ6GEYJ182	S.M.CARB	0.1W 5% 1K8Ω	
R353	ERJ6GEYJ182	S.M.CARB	0.1W 5% 1K8Ω	
R357	ERG1SJ563	METAL	1W 5% 56KΩ	⚠
R358	ERG1SJ563	METAL	1W 5% 56KΩ	⚠
R359	ERG1SJ563	METAL	1W 5% 56KΩ	⚠
R363	ERDS1TJ103	CARBON	0.5W 5% 10KΩ	
R364	ERDS1TJ103	CARBON	0.5W 5% 10KΩ	
R365	ERDS1TJ103	CARBON	0.5W 5% 10KΩ	
R369	ERD25TJ223	CARBON	0.25W 5% 22KΩ	
R370	ERD25TJ103	CARBON	0.25W 5% 10KΩ	
R374	ERDS1TJ274	CARBON	0.5W 5% 270KΩ	
R377	ERQ12HJ1R2	METAL	0.5W 5% 1R2Ω	⚠
R378	ERJ6GEY0R00	WIRE LINK		
R379	ERJ6GEY0R00	WIRE LINK		
R380	ERJ6GEY0R00	WIRE LINK		
R464	ERW12PK1R5	WIRE	12W 10% 1R5Ω	
R467	ERO25CKF1201	METAL	0,25W 1% 1K2Ω	⚠
R471	ERDS1TJ102	CARBON	0.5W 5% 1KΩ	
R562	ERJ6GEYJ225	SM.CARB	0.125W 5% 2.2MΩ	
R563	ERJ6GEYJ225	SM.CARB	0.125W 5% 2.2MΩ	
R564	ERJ6GEYJ623	SM.CARB	0.125W 5% 62KΩ	
R566	ERJ6GEYJ473	S.M.CARB	0.1W 5% 47KΩ	
R702	ERQ12HJ330	METAL	0.5W 5% 33Ω	⚠
R706	ERJ6GEYJ272	S.M.CARB	0.1W 5% 2K7Ω	
R707	ERJ6GEYJ122	S.M.CARB	0.1W 5% 1K2Ω	
R808	232266296319	THERMISTOR		
R809	ERO25CKF1302	METAL	0.25W 1% 13KΩ	⚠
TRANSFORMERS				
T551	ZTFH44007A	F.B.T		⚠
T801	TLP8E1001	TRANSFORMER		